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ABSTRACT

The materials in this publication were developed by nine high school teachers from St. Louis, Missouri, and a U.S. economic educator after they attended a program in Kharkiv, Ukraine, to learn about the difficulties of economic transition in that country. This book is designed to provide lessons about basic economic reform issues facing the countries in the former Soviet Union and eastern Europe. Each of the 10 lessons focuses on a specific aspect of economic reform and the challenges that have been encountered. The 10 lessons in this packet include: (1) "A Parking Lot Full of Incentives"; (2) "Who Decides?"; (3) "A Tale of Two Countries"; (4) "Klips and Kupons"; (5) "Economic Transition: The Role of the State"; (6) "All for One, One for All: - Well Maybe: Problems Within a Tightly Controlled Industrial Structure"; (7) "The Money Maze"; (8) "Public to Private"; (9) "Worker Woes: Labor Transition Challenges"; and (10) "Market or Command: Which Is Best for the Environment?" (EH)

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Command to Market

Economics America

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ECONOMIES IN TRANSITION

Command to Market

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EconomicsAmerica
National Council on Economic Education
A partnership of education, business, and labor

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FOREWORD

It is a great pleasure for me to introduce *Economies in Transition*. This publication contains ten lessons for the secondary classroom that help students in the United States understand the challenges facing the former Soviet Union, Baltic States, and Central European countries during the transition to new political and economic systems.

The development of this publication was undertaken as part of the International Education Exchange program funded by the United States Department of Education, Office of Educational Research and Improvement under PR Grant #R304A50001. The National Council on Economic Education extends its deep appreciation to the Department of Education for its support of this program. In particular, OERI program officer, Dr. Ram Singh, provided valuable advice and assistance.

We are also grateful that the United States Congress had the foresight to realize the need for economic education in the emerging market economies and the vision to see how an international exchange program such as this could benefit U.S. students and teachers.

The materials were developed by nine high school teachers from St. Louis and an U.S. economic educator after they attended a program in Kharkiv, Ukraine to learn about the difficulties of economic transition in that country. We are grateful to the Ukrainian teachers, learning partners with those from Missouri, and the International Renaissance Foundation of Ukraine for their support. We are indebted to the authors for their dedicated work in creating this unique publication. Special thanks are extended to the editors, Sarapage McCorkle and Mary Suiter, Center for Entrepreneurship and Economic Education, University of Missouri-St. Louis, for having the creativity to conceptualize this project, the talents and skills to carry it out, and the perseverance and dedication to bring it to press.

Patricia K. Elder
Vice President, EconomicsInternational
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INTRODUCTION

In the last decade of the millennium, students have witnessed widespread political and economic changes affecting over 400 million people in the former Soviet Union and other reforming countries in eastern Europe. Five years after the beginning of the transition, progress has been made in transforming these countries from command economies to market economies. The reformation has occurred more rapidly in some countries and very slowly in others. Outcomes have been mixed given that each state has had a unique experience.

In general, the enormity of the economic challenges facing these countries is not understood by students or the average U.S. citizen. This lack of understanding frequently emanates from a lack of knowledge of basic economic principles. This unique publication has been designed to provide teachers with lessons that will educate their students about the basic economic issues facing the reforming countries. Each of the ten lessons focuses on a specific aspect of economic reform and the challenges that have been encountered. After actively engaging in these lessons, students will gain more insight into economies in transition.

Lesson One
A Parking Lot Full of Incentives

In this lesson, students become familiar with the profit motive of market economies through a newspaper story about parking lot prices and whether government should intervene to control them. Next, students play the role of parking lot managers in a command economy. In the role-play, output targets are shown to lead to certain behaviors — some of them very strange. Finally, the results and problems with both systems are summarized.

Lesson Two
Who Decides?

In this lesson, members of the class play roles in two different economic systems. Some are central planners of a command economy: others are resource owners and producers in a market economy. Both groups are given the same endowment of resource called "nech" and must ultimately determine how much of this resource to allocate to each of two goods: vesto and carbo. Students compare and evaluate the results on the basis of social goals, such as allocative efficiency and equity.

Lesson Three
A Tale of Two Countries

In this lesson, students use time lines and fact sheets to compare the historical development, both political and economic, in two former Soviet republics. Based on their analyses, they draw conclusions about the historical experiences of a country and the successful development of a market economy.

Lesson Four
Klips and Kupons

In this lesson, students participate in the Klips and Kupons simulation. During the simulation, they discover how a change in the money supply can cause changes in the price level. They formalize this discovery by relating the equation of exchange to their simulation results. Some of the consequences of inflation and hyperinflation are also examined.

Lesson Five
Public to Private

In this lesson, students, working in small groups, write the rules of a simple game — Tic-Tac-Toe. They then consider the more complicated rules and regulations appropriate for a market economy. Students also examine legislation designed to move some agricultural markets away from federal price supports to a more market-based approach. Finally, students consider the difficulties

that economies in transition face in establishing rules and regulations to support a market economy.

Lesson Six
All For One, One For All — Well Maybe: Problems Within a Tightly Controlled Industrial Structure

In this lesson, students participate in two simulations. The first simulation introduces the concept of monopoly. Students discuss the consequences of monopolistic markets. In the second simulation, students experience the effects of price controls and identify how shortages are eliminated in a market economy.

Students use this knowledge to analyze the problems of transition in the former Soviet republics and eastern Europe.

Lesson Seven
The Money Maze

In this lesson, students must use "greenbucks" to purchase the spring for a ballpoint pen from the teacher because it is required to complete a worksheet. In order to purchase the spring, they must find someone in the school who will lend them "greenbucks." Students then learn about the importance of established financial markets and the lack of those markets in many transition economies.

Lesson Eight
Public to Private

In this lesson, students analyze proposals to privatize the public school system in the United States. Students then consider the difficulties of privatization of state property in the Baltics, eastern Europe and the republics of the former Soviet Union.

Lesson Nine
Worker Woes: Labor Transition Challenges

In this lesson, students examine unemployment rates in the United States and the former Soviet Union. Students learn how employment was managed in the former Soviet Union. They also learn about the sources of unemployment in the U.S. The difficulties of transition in labor markets in newly independent states are presented. The role of economic incentives is explained.

Lesson Ten
Market or Command: Which Is Best For the Environment

In this lesson, members of the class play the roles of entrepreneurs in a market economy and managers in a command economy. They make decisions about how to make their product, widgets, given information on cost and availability of the resources used to produce widgets. The effect of ignoring resource costs in both economic systems is discussed.

ACKNOWLEDGMENTS

Economies in Transition was a cooperative effort involving many people. We are grateful to the teachers who helped create and write the lessons, and to those who reviewed and tested the materials.

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LESSON ONE

A PARKING LOT FULL OF INCENTIVES

INTRODUCTION

In a market economy, producers entrepreneurs/ producers take risks to establish a new business, because they expect to be rewarded with profits for satisfying the demands of consumers. In command economies, firm managers are rewarded by the state with vacations, bonus pay, special housing, and other goods and services for meeting planned output targets or goals. While these two reward systems may appear to be similar, they often result in very different outcomes. This lesson considers the behavior of producers under each system and the problems that can arise.

CONCEPTS

Market Economy
Command Economy
Incentives
Profit

OBJECTIVES

- Define incentives
- Describe how incentives influence people's behavior in both market and command economies
- Demonstrate the difficulty of establishing output targets or goals in a command economy

LESSON DESCRIPTION

Students become familiar with the profit motive of market economies through a newspaper story about parking lot prices and whether government should intervene to control them. Next students play the role of parking lot managers in a command economy. In the role-play, different output targets are shown to lead to certain behaviors — some of them very strange. Finally, the results and problems with both systems are summarized.

TIME REQUIRED

- Two class periods

MATERIALS

One copy of Activity 1 for each student
Four copies of Activity 2 for each student
Transparencies of Visuals 1, 2, 3, and 4
Small rewards: granola bars or small wrapped candy bars, four per student

PROCEDURE

1. The day before this lesson distribute a copy of Activity 1 to each student to read before coming to class.

2. Discuss the following questions.

A. Why are the lot owners able to charge more on days when there is a football game or big event? (Demand is much greater. There are many more people willing and able to pay high prices for parking.)

B. Since the cost of providing parking spaces isn't greater on these days, why do the owners raise their prices? [To make greater profits. Profits are the difference between the amount of revenues earned (price paid X number of cars parked) and the costs of providing the parking spaces (payment for land, parking attendant, taxes, maintenance, and security). Generally, in a market economy the goal of producers is to maximize their profits so they have greater incomes to buy the goods and services they desire.]

C. If the lot owners are allowed to charge whatever they like, what will likely happen over time if they are earning very high profits? [The supply of parking spaces will increase as new lots are opened or old lots expanded (even vertically by building a parking garage) in response to expected profits.]

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D. What would greater supply do to the price in the long run? (As the supply of parking spaces increases, the price of parking would fall.)

E. Instead of waiting for all this to occur, the city council passed an ordinance to keep prices low now. What will the probable impact be on game day? [An important function of higher prices is their ability to ration goods and services to those who value them most (i.e. are willing and able to pay the highest price for them). There will be a huge shortage of parking spaces on game day. At the artificially low price, more people will drive, and the quantity of parking spaces demanded will exceed the quantity supplied. Higher prices would reduce the quantity demanded and, therefore, reduce the shortage.]

F. If the prices were kept very low, in what other way might parking spaces be rationed (distributed to consumers)? (First-come, first-served is a likely solution, random draw, cars with odd-numbered license-plate numbers)

3. Explain that first-come, first-served is a rationing system that was very familiar to the people of the former Soviet Union. While the government kept the prices of many scarce consumer goods relatively low, this often led to widespread shortages as the quantity demanded at those prices exceeded the quantity that was available. People had to wait in lines and often many went home empty-handed. But there was another problem — how to create the right incentives for producers in the absence of profits. In this lesson, this problem is investigated.

4. Distribute a copy of Activity 2 to each student, and display Visual 1. Instruct students to read the transparency.

5. Explain that you will act as the government planner and will announce the output goals. Once students are given their goals, they must decide how best to meet the goal in order to receive the reward.

6. Explain that after given their goals, students must decide the type of cars they will allow in the lot and how the cars will be parked in the lot.

7. Display Visual 2 and explain that students will indicate their decisions on Activity 2 by marking "Xs" representing small, medium, and large cars. Point out the "Xs" drawn on the transparency.

8. State the following as the first goal.

Simply fill the lot.

9. Allow five minutes for students to work.

10. Have students report their answers. Explain that there are many ways to fill the lot. Two important points to consider are: 1) the lot is not full if students left a driving lane so, they would not be rewarded; 2) It only takes eight large cars to fill the lot. If the manager wants to meet the goal and save a lot of unnecessary work (getting in and out of the cars to park them), she or he will choose to park the fewest cars.

11. Remind students that in a market economy, gaining profit or avoiding loss is an incentive. Incentives are rewards or penalties that influence people's behavior. In this example, the incentive is for each manager to allow only large cars into the lot.

12. Give each student who reached the goal a reward.

13. Distribute another copy of Activity 2 to each student. State the following as the second goal.

Drivers of small and medium cars complained that they were unable to find parking. As a result, the government has decided to change the output goal. You will now be rewarded according to how many cars you park — the more cars in the lot, the larger the reward. Again decide how many of each type car you will allow and how they will be parked.

14. Allow five minutes for students to work.

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15. Have students report their answers. (They should conclude that the incentive is clearly to allow only small cars into the lot as that maximizes the number of cars that can be parked — 32.)

16. Give each student who reached the goal a reward.

17. Distribute another copy of Activity 2 to each student. State the following as the third goal.

Drivers of medium-sized cars are still complaining and they have been joined by many drivers of large cars. As a result, the government has decided to change the goal again. As before you will be rewarded according to how many cars you park — the more cars the larger the reward — however, now you must have the same number of small, medium, and large cars in your lot. Devise your parking plan. Remember that it must be physically possible to park the cars in the pattern you devise.

18. Allow ten minutes for students to work.

19. Have students report their answers. Display Visual 3 and explain that the most cars that could be parked in this case is twelve (four of each size). A possible parking pattern is shown.

20. Point out that part of the parking lot is left unused. Three more small cars would fit in this area, however, the government's restriction is that the same number of each type car must be present. Therefore, these spaces must remain empty — a waste of land resources.

21. Reward those who achieved the goal.

22. Distribute another copy of Activity 2 to each student. State the following as the fourth goal.

You have been parking 12 cars in your lot. The government decides to widen the road on the east side of your lot. That curb is moved in two keks making your lot 16 x 14 keks. The government, however, will reward you only if you continue to park 12 cars, four of each size. What should you do now? Remember that you can't get any more room or any other inputs to work with.

23. Allow ten minutes for students to work.

24. Have students report their answers. Display Visual 4 and point out the two possible solutions on the transparency. (This should bring out some creativity — exactly like that required of command managers in the real world. A couple of possible "solutions" are park the cars so that part of the car hangs over the street or park cars on their sides — the manager would have to be very strong to do this!)

CLOSURE

1. Ask the students why drivers might be very unhappy with the parking output goals established by the government? (The goals might discriminate against one size car or another. Also, if would be very difficult to get cars out of the lot quickly upon return. The manager had no incentive to leave a driving lane for the convenience of the customers of the lot. If a customer's car was blocked, it is very likely that the manager would tell the customer to wait until the drivers of those cars blocking him returned. Finally, drivers would be very unhappy if their cars were parked on their sides or hanging over into the street. The point is that the managers are not responding to the customer's desires, but to the goals established by the government. It would be very difficult to define goals that would satisfy customers' desires. Note that profit-seeking lot owners would respond directly to what the drivers wanted and were willing and able to pay.)

2. Explain that while the profit incentives may lead to high prices in the short run, lot owners are encouraged by the high prices to meet the wants of the drivers and have an incentive to expand their services. The price controls of a command system can keep prices low, but it is difficult to set output goals that don't create strange incentives for

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managers. Also, there is no incentive to expand service.

3. Ask students to explain what incentives are. (Incentives are rewards or penalties that influence people's behavior)

ASSESSMENT

Describe some of the "incentive clauses" that appear in the contracts of many pro athletes (bonus salary for each home run a baseball player hits, or for each assist a basketball player makes, or for maintaining a certain pass completion percentage for a football quarterback) Ask the following.

A. Why are these incentives offered? (to influence the behavior of the players)

B. Why might these incentives lead to undesirable results? (The baseball players would always "swing for the fences" in an attempt to hit more home runs instead of going for an easier base hit or bunt should the team need it. The basketball player may pass up an easy shot to get an extra assist. The quarterback may only go for short, safe passes to keep his completion percentage high. In other words, the incentives set up for the player may not lead to behavior that is in the best interest of the team. It is difficult to establish goals that lead to desirable results.)

EXTENSION

1. Instruct students to research the types of incentives offered to U.S. workers and predict the impact of these incentives. (bonuses, incremental wage rates, overtime pay)

2. Have students analyze the types of incentives provided to students in school and explain the results of these incentives.

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VISUAL 1

You live in a country that has a command economy. Each of you is the manager of a parking lot like the one shown in Activity 2. Your job is to decide which cars will be allowed to park in your lot. If you decide a car can park there, it is also your job to take the keys and park the car. The lot is 16 x 16 keks (keks are a measure of length in your country), and is surrounded by streets on all sides. It is open all along the north side but has curbs on all the other sides so cars many only drive in from the north side. The cars in your country come in three sizes: small (2 x 4 keks), medium (3 x 6 keks), and large (4 x 8 keks). The government has chosen to set the price of parking very low. As a result, many more cars are looking for parking spaces than are available. As the manager of the parking lot you are rewarded according to how well you fulfill the output goals given you by the government.

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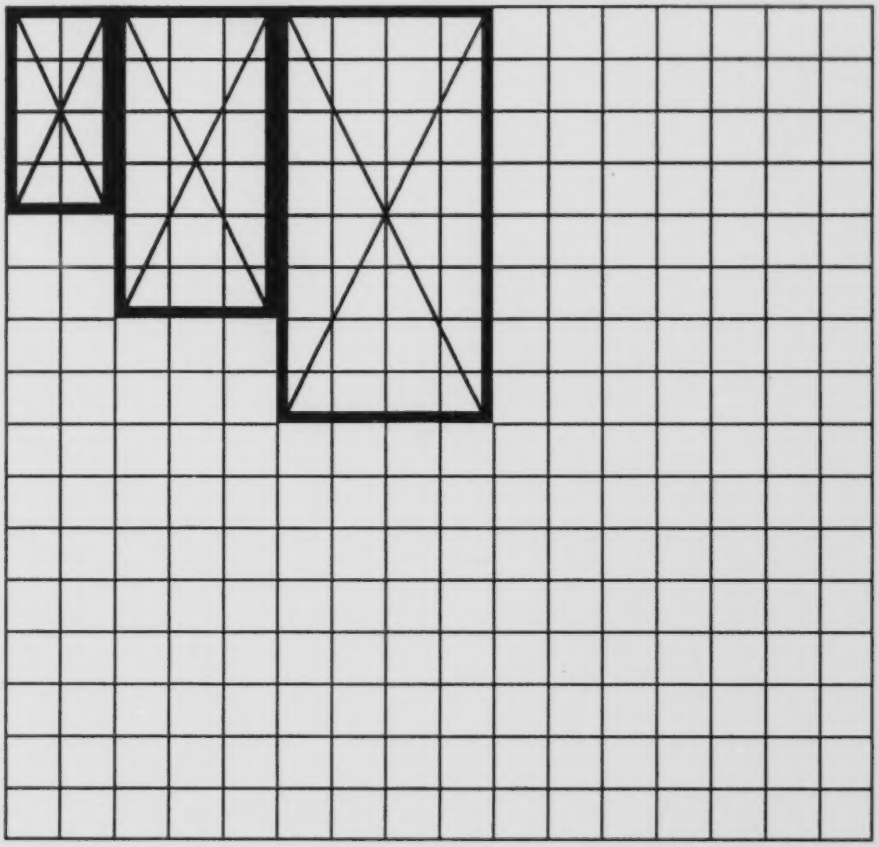
VISUAL 2



2 x 4
keks

3 x 6 keks

4 x 8 keks

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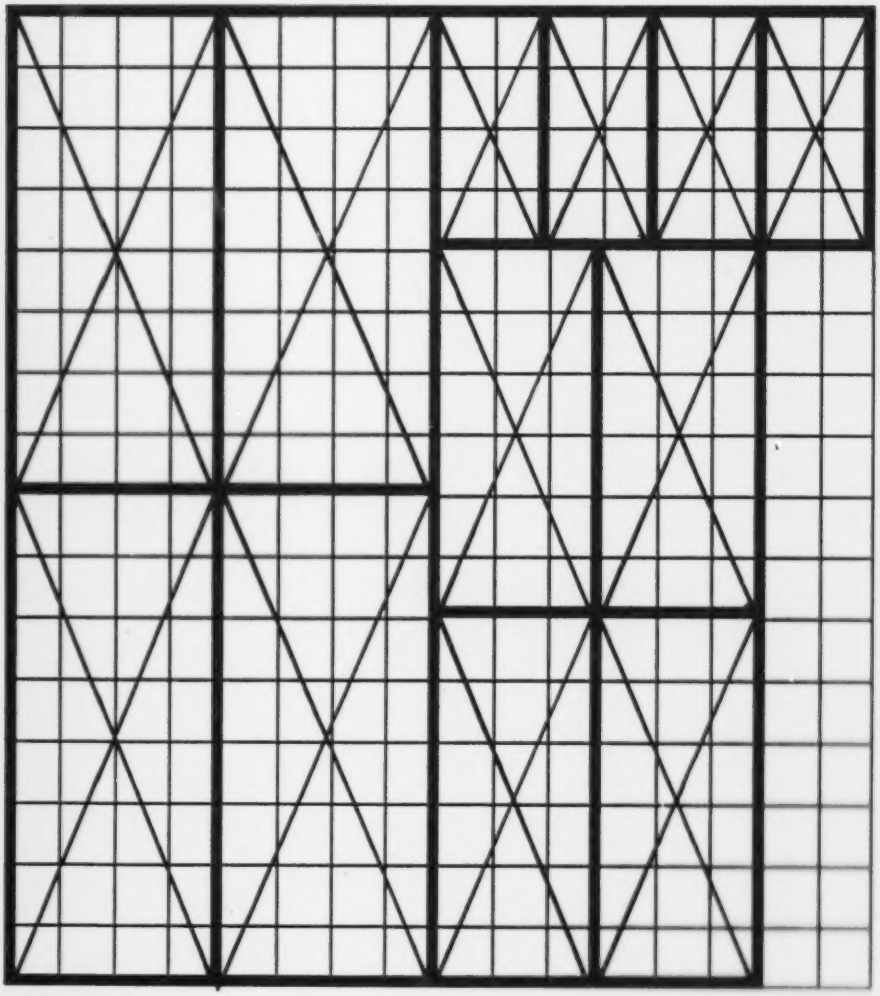
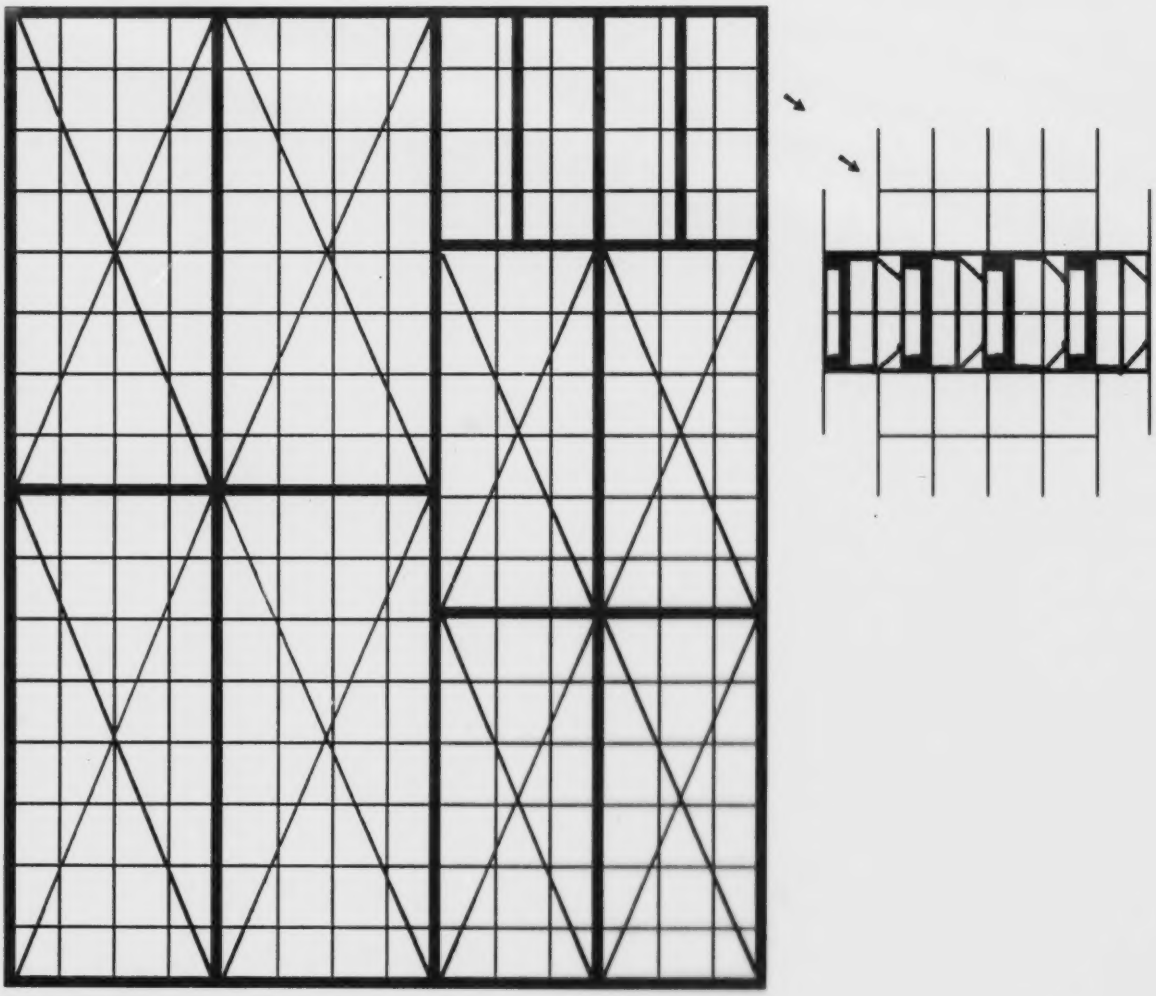
VISUAL 3



VISUAL 4



ACTIVITY 1

CITY COUNCIL, FREE MARKET COLLIDE

by Mary Heartman

St. Louis may have gotten its football team from Los Angeles, but it has also inherited many of the same parking problems that L.A. struggled with for years. Indeed, mayors and city councilmen nationwide have experienced the same headaches.

Yesterday, metro councilwoman Delia Watts, asked the Metro Legal Department to draft an ordinance which would 'regulate' fluctuating parking rates in privately owned lots in the central business district, and near the newly built dome football stadium. "I'm not quite sure what should be in this ordinance," stated Mrs. Watts, "I will just ask them to draw it up and handle the legal aspects . . . it may not even be legal, but the city council is going to settle this issue. Too many people, and especially tourists, are being 'gouged' by private parking lot owners. Even locals who work on weekends are being abused!!"

In a phone conversation, the councilwoman elaborated . . .

"If downtown employees are being forced to find parking in privately owned lots, they should at least be charged a fair and consistent rate . . . but what is happening is that their owners are charging one rate for normal times, and then raising their rates when there is a football game or some big event in town. There are no set rates!! One day they charge 75 cents per car, then its 10 dollars per car." She added, "if these rates are controlled, they would be enforced by the Traffic and Parking Commission." Further, Watts stated, "It has cost the city enough in attracting major events and to have lot owners profiteer from such events is not fair!

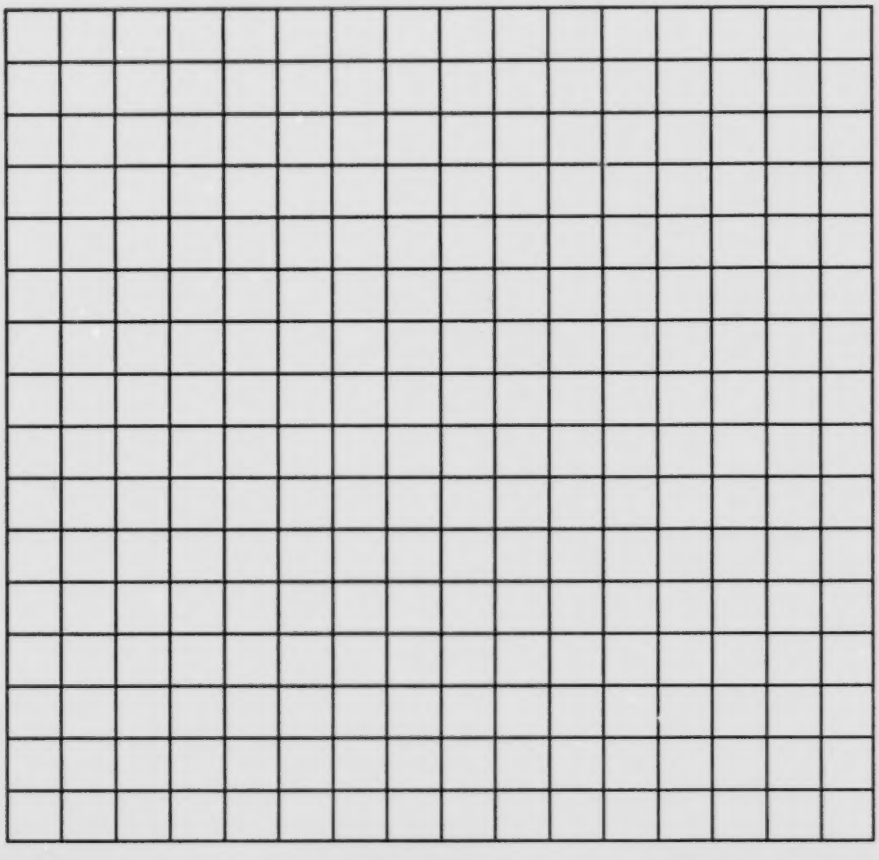
Leo Banderas, Jr., President of the St. Louis Parking Association was also contacted by phone. Members of this organization, operate over 70 percent of the private lots in and around the central business district. "These people get elected and they get like dictators . . . this is America, and I can't see any kind of law or legislation that could be fair to us and be equitable . . . we are business people who believe in the free market." When asked to explain, Banderas added, "Look, our Parking prices are based on demand . . . our location is key to what prices we can charge . . . we provide a service and it ain't free, we got expenses. If people don't want to pay our prices they can find cheaper ways to get to events . . . we advertise our prices in clear view of the street"!

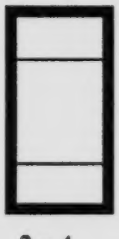
Banderas did admit that some owners might be charging rates that he felt were a bit high, but added that if it is a free country, "What can I do? The city should have thought about these kinds of problems before they paid millions for this team. During the baseball strike nobody came around to pay my bills . . . and it wasn't just me that suffered then!!"

Other lot owners were contacted and most admitted to being aware of some public complaints, but all vowed to fight any attempt at governmental control of their businesses. One stated that because he owned his lot, he could do anything he wanted to and he didn't need Mrs. Watts permission!!

Thus far no resolution to this problem has been found. When contacted, Robert Stevens, Councilman 4th Ward, reflected council sentiment when he said, "the city government had interests to protect."

ACTIVITY 2





2 x 4
keks

3 x 6 keks

4 x 8 keks

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WHO DECIDES?

INTRODUCTION

A basic difference between command and market systems is related to who owns and controls the productive resources of the economy; that is, who ultimately decides how these resources are to be used. The productive resources of an economy are its human (labor), capital, and natural resources. In a command economy where the state or government owns and controls most non-labor resources, a central planning committee is generally responsible for developing a plan on how resources are to be used. In a market economy where individuals own and control the productive resources, these decisions are made in the marketplace where resource owners are the sellers and businesses are the buyers. The businesses' demand for resources reflects consumers' demands for the goods businesses produce. Thus, it is ultimately the wishes of the consumers and the resource holders that determine how resources will be used. This lesson demonstrates how these systems work and evaluates the results of each.

CONCEPTS

Allocative Efficiency
Command Economy
Economic Wants
Market Economy
Productive Resources: natural, human, and capital
Resource Allocation
Social Goals

OBJECTIVES

◆ Explain the differences between command and market economies with respect to resource ownership and control.

◆ Demonstrate how resources are allocated in command and market economies.

◆ Evaluate resource allocation under market and command economies according to social goals

LESSON DESCRIPTION

Members of the class play roles in two different economic systems. Some are the central planners of a command economy. The others are resource owners and producers in a market economy. Both groups are given the same endowment of a resource called "nech" and must ultimately determine how much of this resource will be devoted to each of two goods: vesto and carbo. The results are compared and evaluated on the basis of social goals, such as allocative efficiency and equity.

This simulation requires a minimum of 24 students — two Central Planning Committees (CPC) plus 20 market participants. With more students, add CPCs, CPC members, and/or vesto and carbo producers.

TIME REQUIRED

◆ One class period

MATERIALS

Transparency of Visuals 1 and 2

Enough copies of Activities 1, 2, and 3 to provide role cards for Central Planners, Nech Owners, Vesto Producers, and Carbo Producers (See procedure step # 2 for the number of cards needed.)

8 pencils or other small items to represent units of nech in the market simulation

Enough copies of Activity 4 so that each producer has the amount listed on his/her card

PROCEDURE

1. Explain that students will participate in a simulation to learn how resources are allocated in command and market economies. Display Visual 1 to describe some basic characteristics of market and command economies. Discuss:

A. Point out that the first characteristic for each economy focuses on productive resources. What is a productive resource? (something used to produce goods and services)

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B. Explain that there are three basic types of productive resources: natural, human and capital. Define and provide examples of natural, human, and capital resources. (natural: things that occur naturally in or on the earth, such as land, coal, oil, plants; human resources: people doing mental or physical work, such as teachers, farmers, mechanics, doctors; capital resources: things made by people and used to produce other goods and services, such as machine, tools, factories)

C. Ask students to compare the characteristics of the two types of economies.

D. What are social goals? (Social goals are the criteria used for evaluating an economic system.) Display Visual 2 and discuss.

2. Divide the class into five groups as follows.

A. Central Planning Committee #1 (2-5 students)
B. Central Planning Committee #2 (2-5 students)
C. Nech Resource Owners (8 students)
D. Vesto Producers (at least 6 students)
E. Carbo Producers (at least 6 students)

3. Instruct each Central Planning Committee (CPC) to move to a different corner of the room. Give each CPC member a role card. Explain they will have 10-15 minutes in which to work. (Note: This is the only role card that CPC groups will receive.)

4. Explain to the remaining groups that in order to produce vesto and carbo, producers must buy the nech resource from its owners.

5. Give each nech owner a role card and a unit of nech.

6. Give each vesto and carbo producer the appropriate role card and the amount of greenback$ indicated on their cards. Instruct students to read their cards.

7. Explain that nech owners and vesto and carbo producers will actually exchange nech for greenback$. Ask students if they have any questions. (Note: The CPC groups do not participate in the exchange process.)

8. Remind the nech owners that they are trying to get the highest price possible for their units of nech. Remind the producers they are trying to buy nech at the lowest price possible.

9. Tell vesto, carbo, and nech students that they will have 10-15 minutes to engage in exchange. (Note: While the exchange takes place, the CPC groups should be making their decisions.) Near the end of the market session give a "one-minute warning" that the market is closing, and remind nech owners that this is their last chance to sell their units.

10. End the exchange session. Discuss:

A. What type of economy did the CPCs represent? (command) Why? (The CPCs controlled and allocated the nech resources according to their social goals.)

B. What type of economy did the exchange simulation represent? (market) Why? (The nech resources were owned by individuals and allocated in the marketplace. Both consumers and producers were motivated by their self-interests.)

11. Ask each CPC to report its resource decision to the entire class; that is, how much the committee allocated to vesto producers and how much to carbo producers. Record this information on the board.

12. Ask each CPC to identify the criteria or goals it used in making its decision.

13. Ask the market group how much nech was purchased by vesto producers and how much was purchased by carbo producers. (Given the values on the vesto and carbo cards, six units of nech

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should have been purchased by vesto producers and two by carbo producers.)

14. Ask students why they think more nech was purchased by vesto producers than carbo producers. (The vesto producers were, in general, willing and able to bid more for the nech because consumers were willing and able to pay more for vestos. Consumers valued vestos more highly than carbos.)

15. Discuss.

A. Why would the two CPCs report different results? (The results of the CPCs depended upon what the planners thought most important. This could be different from one group of planners to another.)

B. Why might the market results be different from one or both CPC results? (The market result is driven by what consumers are willing and able to pay for vesto and carbo. Since consumers placed a higher value on vesto production than on carbo production, more nech was allocated to vesto production.)

16. Explain that economists say that a society achieves allocative efficiency when it produces those goods and services that society values most, based on individual preferences, with the resources available. In the market simulation, more nech was allocated to the product most preferred by individuals, and less nech was allocated to the product least preferred by individuals.

17. Tell students that markets provide information about the value of goods and services in an economy; and resource owners act upon this information when allocating their resources.

18. Explain that each CPC could have arrived at the same result, but this would have occurred by chance. The planners had no information about the value of vestos versus carbos.

19. Discuss.

A. In a market system, how would the allocation of nech resources change if most of the members of the society decided to live as nudists? (The demand for vestos would fall. As a result, the price of vestos would fall. At this lower price, vesto producers would only be willing to produce and sell a smaller quantity of vestos. As a result, fewer nech resources would be allocated to the production of vestos.)

B. In a command system, how would the allocation of nech resources change if most of the members of the society decided to live as nudists? (It depends. The CPC would only respond to this change if it affected the achievement of the CPCs social goals.)

C. What are the advantages and disadvantages of the resource allocation process in each system? (In a market system, consumers drive the production decisions of producers. Those decisions are based on how much power the consumers have in the market, which comes from how much income they have and what they want. Although this system allocates resources efficiently according to individual preferences, it may not be considered equitable — especially by people with low incomes. A command system may attempt to achieve economic equity, but it achieves this social goal by trading off some efficiency.)

CLOSURE

1. How is resource allocation determined in a market economy? (Markets provide information about the value of goods and services in an economy relative to the preferences of consumerss. Resource owners act upon this information when allocating their resources.)

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2. How is resource allocation determined in a command economy? (Central planners determine which goods and services will be produced and which resources will be allocated to the production of those goods and services, based on the desired social goals.)

ASSESSMENT

1. Have students develop a chart listing the advantages and disadvantages of command and market economies.

2. Have students write an essay explaining the system under which they would prefer to live. They should include a discussion of the factors that are important to them in making such a decision.

3. Explain that newly independent states of the former Soviet Union are undertaking a transition from command to market economies. Ask students to predict how resource allocation mechanisms will change and what difficulties will be encountered. Have them identify who has the most to gain (lose) from the transition.

EXTENSION

Ask students to research Russian history and examine how resources were allocated under the feudal system.

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VISUAL 1
THE DIFFERENCES BETWEEN MARKET AND COMMAND ECONOMIES

MARKET ECONOMY

1. Productive resources are owned and controlled by individuals in the economy.

2. Decisions about how resources are to be used are made by numerous individual buyers and sellers in markets.

3. Individuals are motivated by their own self-interest.

COMMAND ECONOMY

1. Except for human resources, most productive resources are owned and controlled by the state or government.

2. Decisions about how resources are to be used are made by central planners of the government.

3. Central planners are motivated by the social goals they establish.

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VISUAL 2
BROAD SOCIAL GOALS OF AN ECONOMIC SYSTEM

ECONOMIC FREEDOM refers to such things as the freedom for consumers to decide how to spend or save their incomes, for workers to change jobs or join unions, and for people to establish new businesses or close old ones.

ECONOMIC EFFICIENCY refers to how well productive resources are allocated with respect to the costs and benefits of using those resources.

ECONOMIC EQUITY refers to people's sense of "fairness". Economic actions and policies must be evaluated in terms of what people think is right and wrong.

ECONOMIC SECURITY refers to protection against economic risks, such as work injuries, unemployment, inflation, business failures, and poverty.

ECONOMIC GROWTH refers to increasing the production of goods and services over time. The rate of economic growth is measured by changes in the level of real gross domestic product, and a target of 3 to 4% growth per year is generally considered to be a reasonable goal.

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ACTIVITY 1
CPC ROLE CARDS

CPC Member

You are a member of the Central Planning Committee of Econoland. Your country has 8 units of the resource "nech" available this year. Nech becomes useless fairly quickly so these units must be used this year. Nech is used in producing two goods which are important to your country: carbo, a food product, and vesto, a type of clothing. With the current technology of your country, one unit of nech is needed to produce one unit of carbo and one unit of nech is needed to produce one unit of vesto. You must allocate the 8 units of nech to the producers of these two products. Decide how many units of nech each sector should get. Be ready to describe how you came to this decision.

CPC Member

You are a member of the Central Planning Committee of Econoland. Your country has 8 units of the resource "nech" available this year. Nech becomes useless fairly quickly so these units must be used this year. Nech is used in producing two goods which are important to your country: carbo, a food product, and vesto, a type of clothing. With the current technology of your country, one unit of nech is needed to produce one unit of carbo and one unit of nech is needed to produce one unit of vesto. You must allocate the 8 units of nech to the producers of these two products. Decide how many units of nech each sector should get. Be ready to describe how you came to this decision.

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ACTIVITY 2
NECH OWNER ROLE CARDS

Nech Owner

You are the owner of one unit of nech. Nech is a resource used in producing carbo, a food product, and vesto, a type of clothing. Nech becomes useless fairly quickly so you are interested in selling your unit right away to the highest bidder. Try to get the highest price you can for your nech because you are also a self-interested, capitalist wealth-maximizer!

Nech Owner

You are the owner of one unit of nech. Nech is a resource used in producing carbo, a food product, and vesto, a type of clothing. Nech becomes useless fairly quickly so you are interested in selling your unit right away to the highest bidder. Try to get the highest price you can for your nech because you are also a self-interested, capitalist wealth-maximizer!

Nech Owner

You are the owner of one unit of nech. Nech is a resource used in producing carbo, a food product, and vesto, a type of clothing. Nech becomes useless fairly quickly so you are interested in selling your unit right away to the highest bidder. Try to get the highest price you can for your nech because you are also a self-interested, capitalist wealth-maximizer!

Nech Owner

You are the owner of one unit of nech. Nech is a resource used in producing carbo, a food product, and vesto, a type of clothing. Nech becomes useless fairly quickly so you are interested in selling your unit right away to the highest bidder. Try to get the highest price you can for your nech because you are also a self-interested, capitalist wealth-maximizer!

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ACTIVITY 3
VESTO/CARBO PRODUCER ROLE CARDS

Carbo Producer

You are a producer of carbo, a food product. You need one unit of nech to produce one unit of your product (and one unit is all you are able to produce). Given the demand for your product the maximum you are willing and able to pay for a unit of nech is $16.00 but you are obviously looking for a lower price if you can get it. Try to make a deal with a nech owner!

Vesto Producer

You are a producer of vesto, a type of clothing. You need one unit of nech to produce one unit of your product (and one unit is all you are able to produce). Given the demand for your product the maximum you are willing and able to pay for a unit of nech is $24.00 but you are obviously looking for a lower price if you can get it. Try to make a deal with a nech owner!

Carbo Producer

You are a producer of carbo, a food product. You need one unit of nech to produce one unit of your product (and one unit is all you are able to produce). Given the demand for your product the maximum you are willing and able to pay for a unit of nech is $12.00 but you are obviously looking for a lower price if you can get it. Try to make a deal with a nech owner!

Vesto Producer

You are a producer of vesto, a type of clothing. You need one unit of nech to produce one unit of your product (and one unit is all you are able to produce). Given the demand for your product the maximum you are willing and able to pay for a unit of nech is $20.00 but you are obviously looking for a lower price if you can get it. Try to make a deal with a nech owner!

Carbo Producer

You are a producer of carbo, a food product. You need one unit of nech to produce one unit of your product (and one unit is all you are able to produce). Given the demand for your product the maximum you are willing and able to pay for a unit of nech is $8.00 but you are obviously looking for a lower price if you can get it. Try to make a deal with a nech owner!

Vesto Producer

You are a producer of vesto, a type of clothing. You need one unit of nech to produce one unit of your product (and one unit is all you are able to produce). Given the demand for your product the maximum you are willing and able to pay for a unit of nech is $18.00 but you are obviously looking for a lower price if you can get it. Try to make a deal with a nech owner!

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ACTIVITY 3 (Continued)

Carbo Producer

You are a producer of carbo, a food product. You need one unit of nech to produce one unit of your product (and one unit is all you are able to produce). Given the demand for your product the maximum you are willing and able to pay for a unit of nech is $6.00 but you are obviously looking for a lower price if you can get it. Try to make a deal with a nech owner!

Vesto Producer

You are a producer of vesto, a type of clothing. You need one unit of nech to produce one unit of your product (and one unit is all you are able to produce). Given the demand for your product the maximum you are willing and able to pay for a unit of nech is $16.00 but you are obviously looking for a lower price if you can get it. Try to make a deal with a nech owner!

Carbo Producer

You are a producer of carbo, a food product. You need one unit of nech to produce one unit of your product (and one unit is all you are able to produce). Given the demand for your product the maximum you are willing and able to pay for a unit of nech is $5.00 but you are obviously looking for a lower price if you can get it. Try to make a deal with a nech owner!

Vesto Producer

You are a producer of vesto, a type of clothing. You need one unit of nech to produce one unit of your product (and one unit is all you are able to produce). Given the demand for your product the maximum you are willing and able to pay for a unit of nech is $14.00 but you are obviously looking for a lower price if you can get it. Try to make a deal with a nech owner!

Carbo Producer

You are a producer of carbo, a food product. You need one unit of nech to produce one unit of your product (and one unit is all you are able to produce). Given the demand for your product the maximum you are willing and able to pay for a unit of nech is $4.00 but you are obviously looking for a lower price if you can get it. Try to make a deal with a nech owner!

Vesto Producer

You are a producer of vesto, a type of clothing. You need one unit of nech to produce one unit of your product (and one unit is all you are able to produce). Given the demand for your product the maximum you are willing and able to pay for a unit of nech is $12.00 but you are obviously looking for a lower price if you can get it. Try to make a deal with a nech owner!

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ACTIVITY 3 (Continued)

Carbo Producer You are a producer of carbo, a food product. You need one unit of nech to produce one unit of your product (and one unit is all you are able to produce). Given the demand for your product the maximum you are willing and able to pay for a unit of nech is $3.00 but you are obviously looking for a lower price if you can get it. Try to make a deal with a nech owner!	**Vesto Producer** You are a producer of vesto, a type of clothing. You need one unit of nech to produce one unit of your product (and one unit is all you are able to produce). Given the demand for your product the maximum you are willing and able to pay for a unit of nech is $10.00 but you are obviously looking for a lower price if you can get it. Try to make a deal with a nech owner!
Carbo Producer You are a producer of carbo, a food product. You need one unit of nech to produce one unit of your product (and one unit is all you are able to produce). Given the demand for your product the maximum you are willing and able to pay for a unit of nech is $2.00 but you are obviously looking for a lower price if you can get it. Try to make a deal with a nech owner!	**Vesto Producer** You are a producer of vesto, a type of clothing. You need one unit of nech to produce one unit of your product (and one unit is all you are able to produce). Given the demand for your product the maximum you are willing and able to pay for a unit of nech is $8.00 but you are obviously looking for a lower price if you can get it. Try to make a deal with a nech owner!
Carbo Producer You are a producer of carbo, a food product. You need one unit of nech to produce one unit of your product (and one unit is all you are able to produce). Given the demand for your product the maximum you are willing and able to pay for a unit of nech is $1.00 but you are obviously looking for a lower price if you can get it. Try to make a deal with a nech owner!	**Vesto Producer** You are a producer of vesto, a type of clothing. You need one unit of nech to produce one unit of your product (and one unit is all you are able to produce). Given the demand for your product the maximum you are willing and able to pay for a unit of nech is $6.00 but you are obviously looking for a lower price if you can get it. Try to make a deal with a nech owner!

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ACTIVITY 4
GREENBUCK$

Greenbuck$	Greenbuck$
Greenbuck$	Greenbuck$
Greenbuck$	Greenbuck$
Greenbuck$	Greenbuck$

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A TALE OF TWO COUNTRIES

INTRODUCTION

The Soviet Union and its 15 republics ceased to exist in 1991. As the former Soviet republics struggle to become independent, democratic, market-based nations, a simple question of their historical experiences with such institutions seems relevant. Previous experience with private ownership, market institutions, democratic processes, and making decisions as an independent state might be helpful in explaining the differential willingness and ability of these nations to move toward market systems.

Both Ukraine and Latvia declared their independence in 1991. Both share similar historical experiences as part of the Russian Empire through the 19th century and in this century through annexation to the Union of Soviet Socialist Republics. Despite these similarities, there are differences to be considered that will affect their future economic direction and ultimate success.

CONCEPTS

Command Economy
Market Economy
Natural Resources
Capital Resources

OBJECTIVES

◆ Identify major natural resources of Ukraine and Latvia

◆ Identify capital resources of Ukraine and Latvia

◆ Using historical, economic, and geographical data, predict the economic successes of newly independent states in their transition to a market economy

LESSON DESCRIPTION

In this lesson, students use time lines and fact sheets to compare the historical development, both political and economic, in two former Soviet republics. Based on their analyses, they draw conclusions about the historical experience of a country and the successful development of a market economy.

TIME REQUIRED

◆ Two class periods

MATERIALS

Reference materials, such as almanacs, atlases, or encyclopedias
One copy of Activity 1 for each student
Copies of Activities 2 and 3 for half the class
Copies of Activities 4 and 5 for half the class

PROCEDURE

1. Explain that the Soviet Union and its fifteen republics ceased to exist in 1991 as a common political entity. Both Ukraine and Latvia declared their independence in that year.

2. Explain that the former Soviet Union had a command economy. A command economy is one in which a central authority makes the decisions about what to produce, how to produce, and for whom to produce.

3. Explain that since declaring independence, both countries are trying to move toward a market economy. A market economy is one in which the decisions about what to produce, how to produce and for whom to produce are made in markets through the interactions of consumers and producers.

4. Explain that students will work in groups and research these countries to learn what factors might influence a successful transition.

5. Explain that half of the groups will research and study Ukraine. Those in the other half will research and study Latvia.

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6. Explain that natural resources are those things that occur naturally in or on the earth. Capital resources are things produced by people and used over and over again to produce other goods and services. Ask the students to identify examples of natural and capital resources. (natural: crude oil, coal, land, water; capital: factories, machines, computers, tools, trucks)

7. Divide the class into small groups. Distribute a copy of Activity 1 and Activities 2 and 3, or 4 and 5 to each student.

8. Instruct each group to complete Activity 1 using reference materials and information provided.

9. After group work is completed, instruct students to use the information to discuss the following.

A. How might the natural features of Ukraine and Latvia have influenced their historical development? (Ukraine's physical geography made it open to numerous invasions throughout its history; the Dnieper River was a major corridor for contacts between Russia and Western Europe. Latvia is a small country whose Baltic Sea location and lack of natural land boundaries facilitated invasions by Swedes, Germans, Poles, and Russians throughout its history.)

B. What capital resources did you determine are available in Ukraine and Latvia? How might they influence the development of a market economy? (Answers will vary.)

C. What human resources are available in Ukraine and Latvia? How might they influence the development of a market economy? (Answers will vary.)

D. What are the historical experiences of Ukraine and Latvia as independent states? (Most of Ukraine was independent for one year, 1918, before it entered the Soviet Union. The western third of Ukraine and Latvia were an independent nation, 1918 - 1940, before annexation to the Soviet Union.)

E. How are the experiences of Ukraine and Latvia similar? (Both countries came under the control of the Russian Empire in the 18th Century. Both countries were "socialist republics" in the former Soviet Union.)

F. Why did Ukraine experience a longer period under a planned economy? (Ukraine was part of the Soviet Union from 1918-1991.)

G. Why might Latvia have some experience with a market economy on which to build? (Latvia was an independent country from 1918 to 1940. During that time it had a market economy. Ukraine has not had a market economy since 1918 and even then it was not as developed as in Europe and the United States.)

10. Explain that under the Soviet command economy, land was owned by the state. To accomplish this "collectivization," private property was confiscated and transferred to the state. As former Soviet republics declared their independence, the issue of property rights for land has arisen. Ask student to consider why the restoration of property rights may be more difficult in Latvia than in Ukraine. (In many cases, individuals or their heirs remember their land that was confiscated by the state. They are demanding the return of the land or compensation for it. It has been a much longer time since property rights existed in most of Ukraine. The history of private ownership does not exist in most of Ukraine; therefore, fewer people are likely to claim ownership.)

11. Tell students that Vladimir Ilyich Lenin wrote, "If we lose the Ukraine, we lose our heads." Discuss:

A. Ask students to speculate on the meaning of this statement.

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B. What information do you have that will support or refute his statement? (The natural resources of the Ukraine, such as fertile agricultural land, the large Slavic population, Ukraine's strategic position at the crossroads between Europe and Asia were important to the Soviet economy.)

CLOSURE

1. Ask students to look at Ukraine and Latvia as a doctor would in giving a patient a physical exam. Heart rate and cholesterol levels are used as indicators of the health of a person. Have students use their research to describe some indicators of the health of the economies of Ukraine and Latvia. (The quantity and quality of human, natural, and capital resources would be important indicators. Gross domestic product per capita, life expectancy rates, unemployment, inflation, and literacy rate would also be important indicators of the health of these economies.)

2. Which country is likely to have greater success making the transition from a centrally planned economy to a market economy? (Latvia) Why? (Latvia had more recent and longer experience as a market. Individuals may remember the role of property rights and understand the incentive structure of market systems. Latvia has more cultural ties with other Baltic countries and Scandinavia. Latvia has more resources per capita.)

ASSESSMENT

Using Activity 1 as a guide, students should research another newly independent state and locate a map of the country. They should compare their results with their information on Latvia and Ukraine and draw some conclusions about the historical experience of a country and the successful development of a market economy.

EXTENSION

The People's Republic of China has been a centrally planned economy similar to the former Soviet Union. Market forces have been allowed to operate in some sectors of the economy. Some people believe that China will eventually become a market-based economy. Have students conduct research on economic changes in China and compare them to the transition experiences of Ukraine and Latvia.

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ACTIVITY 1
PROFILE SHEET

Name of Country: _____

Population: _____

Total Area: _____

Life Expectancy Rate: _____ **Infant Mortality Rate:** _____

Comparative U.S. State in Area: _____

Capital City: _____ **Currency:** _____

Per Capita Gross Domestic Product: _____

Unemployment Statistic: _____

Inflation Rate: _____

Bordering Countries: _____

_____

Literacy Rate: _____

Surrounding Bodies of Water: _____

Rivers: _____

Transportation: _____

Infrastructure: _____

_____

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ACTIVITY 1 (Continued)

Important Industrial Products: _____

_____

_____

Percent of Arable Land: _____

Important Agricultural Products: _____

_____

_____

Important natural resources: _____

_____

_____

Important capital resources: _____

_____

_____

Import partners and products: _____

_____

Export partners and products: _____

_____

Environmental concerns: _____

_____

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ACTIVITY 2
UKRAINE: TIMELINE

World History	AD	Ukrainian History
Frankish Empire under Charlemagne	800-814	
	c. 882	Emergence of Kievan Russia in area of present-day Ukraine
Great Schism between Roman Catholic and Eastern Orthodox Churches	1054	
Crusades	1096-1291	
Mongolian invasions of Europe	1200s	
	1240	Mongol destruction of Kievan realm: Ukraine absorbed by Poland and Lithuania
	1380	Poland and Lithuania linked through royal marriage
	1400s	Serfs escaping from Poland and Russia from independent settlements on south Ukrainian frontier; known as Cossacks, they develop a noted military tradition
Columbus reaches New World	1492	
	1500	Cossack units active in service of both Poland and Russia
Martin Luther begins Protestant Reformation	1512	
	1569	Union of Lublin joins Poland and Lithuania under Polish crown
Thirty Years' War	1618-1648	
	1648-1654	Cossack rebellion against Polish rule; an autonomous Cossack state is formed
	1654	Cossack governing council, seeking protection against Polish attack, submits to Russian rule
	1667	Russo-Polish War of 1658-1667 ended by Treaty of Andrusovo, dividing Ukraine between two countries along Dnieper River
	1672-1699	Ottoman occupation of Polish western Ukraine
American Declaration of Independence	1776	
French Revolution	1789	

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ACTIVITY 2
UKRAINE: TIMELINE

	1793	Partition of Poland gives Russia part of present-day western Ukraine
Napoleonic Wars	1803-1815	
World War I	1914-1916	
Russian Revolution	1917	
	1918	Independent Ukraine proclaimed amid Russian Civil War
	1919	Bolshevik-allied government of Ukrainian Soviet Socialist Republic established
	1921	Treaty of Riga ending Russo-Polish War of 1919-1920 leaves much of Ukraine under Russian control
	1922	Ukrainian Soviet Socialist Republic part of newly formed Soviet Union
World War II	1939-1945	
	1945	Following World War II, Soviet Union absorbs into Ukrainian Soviet Socialist Republic Polish Galicia and Vohynia, Czechoslovak Ruthenia, and Romanian northern Bukovina and southern Bessarabia; Ukrainian Soviet Socialist Republic given membership in United Nations General Assembly
	1954	Soviet Union transfer Crimea from Russia to Ukraine to mark 300 years of Russo-Ukrainian union
	1990	Independence-seeking reform government formed under former Communist Leonid Kravchuk
Demise of Soviet Union	1991	Independent Ukraine declared amid collapse of Communist rule

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ACTIVITY 3
UKRAINE: FACT SHEET

Geography

Location	Eastern Europe, bordering the Black Sea, between Poland and Russia
Map References	Commonwealth of Independent States - European States
Area	Total area: 603,700 sq. km. Land area: 603,700 sq. km. Comparative area: slightly smaller than Texas
Land Boundaries	total 4,558 km., Belarus 891 km., Hungary 103 km., Moldova 939 km., Poland 428 km., Romania (southwest) 169 km., Romania (west) 362 km., Russia 1,576 km., Slovakia 90 km.
Coastline	2,782 km.
Climate	temperate continental; Mediterranean only on the southern Crimean coast; precipitation disproportionately distributed, highest west and north, lesser in east and southeast; winters vary from cool along the Black Sea to cold farther inland; summers are warm across the greater part of the country, hot in the south
Terrain	most of Ukraine consists of fertile plains (steppes) and plateaux, mountains being found only in the west (the Carpathians), and in the Crimean Peninsula in the extreme south
Natural resources	iron ore, coal, manganese, natural gas, oil, salt, sulphur, graphite, titanium, magnesium, kaolin, nickel, mercury, timber
Land use	arable land: 56% permanent crops: 2% meadows and pastures: 12% forest and woodland: 0% other: 30%
Irrigated land	26,000 sq. km. (1990)
Environment	current issues: inadequate supplies of potable water; air and water pollution; deforestation; radiation contamination in the northeast from 1986 accident at Chernobyl Nuclear Power Plant

Note: strategic position at the crossroads between Europe and Asia; second largest country in Europe

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ACTIVITY 3
UKRAINE: FACT SHEET

People

Population	51,867,828 (July 1995 est.)
Age structure	0-14 years: 21% (female 5,217,850; male 5,407,450) 15-64 years: 65% (female 17,563,924; male 16,334,299) 65 years and over: 14% (female 4,976,893; male 2,367,412) (July 1995 est.)
Population growth rate	0.04% (1995 est.)
Birth rate	12.31 births/1,000 population (1995 est.)
Death rate	12.67 deaths/1,000 population (1995 est.)
Infant mortality rate	20.5 deaths/1,000 live births (1995 est.)
Nationality	noun: Ukrainian(s) adjective: Ukrainian
Ethnic divisions	Ukrainian 73%, Russian 22%, Jewish 1%, other 4%
Religions	Ukrainian Orthodox — Moscow Patriarchate, Ukrainian Orthodox — Kiev Patriarchate, Ukrainian Autocephalous Orthodox, Ukrainian Catholic (Uniate), Protestant, Jewish
Languages	Ukrainian, Russian, Romanian, Polish, Hungarian
Literacy	age 15 and over can read and write (1989) total population: 98% male: 100% female: 97%
Labor force	23.55 million (January 1994) by occupation: industry and construction 33%, agriculture and forestry 21%, health, education, and culture 16%, trade and distribution 7%, transport and communication 7%, other 16% (1992)

Government

Type	republic
Capital	Kiev (Kyyiv)

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ACTIVITY 3
UKRAINE: FACT SHEET

Independence	1 December 1991 (from Soviet Union)
National holiday	Independence Day, 24 August (1991)
Constitution	using 1978 pre-independence constitution; new constitution currently being drafted
Legal system	based on civil law system; no judicial review of legislative acts
Suffrage	18 years of age; universal
Executive branch	chief of state: President head of government: Acting Prime Minister cabinet: Council of Ministers; appointed by the president and approved by the Supreme Court National Security Council: members include the president, prime minister, Ministers of Finance, Environment, Justice, Internal Affairs, Foreign Economic Relations, Economic and Foreign Affairs; the NSC staff is tasked with developing national security policy on domestic and international matters and advising the president
Legislative branch	Supreme Council
Judicial branch	joint commission formed in April 1995 to define a program of judicial reform by year-end
Flag	two equal horizontal bands of azure (top) and golden yellow represent grainfield under a blue sky

Government Organization

President

Supreme Court — **Chairman, Cabinet of Ministers** — **Supreme Soviet**

Ministries

– Regional Governments –

Local Governments

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ACTIVITY 3
UKRAINE: FACT SHEET

Economy

Overview

After Russia, the Ukrainian republic was far and away the most important economic component of the former Soviet Union, producing more than three times the output of the next-ranking republic. Its fertile black soil generated more than one-fourth of Soviet agricultural output, and its farms provided substantial quantities of meat, milk, grain, and vegetables to other republics. Likewise, its diversified heavy industry supplied equipment and raw materials to industrial and mining sites in other regions of the former USSR. In early 1992, the Ukrainian government liberalized most prices and erected a legal framework for privatization, but widespread resistance to reform within the government and the legislature soon stalled reform efforts and led to some backtracking. Loose monetary and fiscal policies pushed inflation to hyperinflationary levels in late 1993. Greater monetary and fiscal restraint lowered inflation in 1994, but also contributed to an accelerated decline in industrial output. In July 1994, the President developed — and parliament approved — a comprehensive economic reform program, maintained financial discipline, and reduced state controls over prices, the exchange rate, and foreign trade. Implementation of this economic agenda encountered considerable resistance from parliament, entrenched bureaucrats, and industrial interests and contributed to further declines in output and rising unemployment.

National product	GDP — purchasing power parity - $189.2 billion
National product real growth rate	-19% (1994 est.)
National product per capita	$3,650 (1994 est.)
Inflation rate (consumer prices)	14% per month (1994)
Unemployment rate	0.4% officially registered; large number of unregistered or underemployed workers
Exports	$11.8 billion (1994) commodities: coal, electric power, ferrous and nonferrous metals, chemicals, machinery and transport equipment, grain, meat partners: FSU countries, China, Italy, Switzerland

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ACTIVITY 3
UKRAINE: FACT SHEET

Imports	commodities: energy, machinery and parts, transportation equipment, chemicals, textiles partners: FSU countries, Germany, Poland, Czech Republic
Industrial production	growth rate -18% (1994 est.); accounts for 50% of GDP
Industries	coal, electric power, ferrous and nonferrous metals, machinery and transport equipment, chemicals, food-processing (especially sugar)
Agriculture	accounts for about 25% of GDP; grain, vegetable, meat, milk, sugar beets
Currency	Ukraine withdrew the Russian ruble from circulation on 12 November 1992 and declared the karbovanets (plural karbovantsi) sole tender in Ukrainian markets
Fiscal year	calendar year

Transportation

Railroads	total: 23,350 km broad gauge: 23,350 km 1.524-m gauge (8,600 km electrified)
Highways	total: 273,000 km paved and graveled: 236,400 km unpaved: earth 37,300 km
Inland waterways	1,672 km perennially navigable (pryp˜yat' and Dnipro Rivers)
Pipelines	crude oil 2,010 km; petroleum products 1,920 km; natural gas 7,800 km (1992)
Ports	Berdyans´k, Illichivs´k, Izmayil, Kerch, Kherson, Kiev (Kyyiv), Mariupol´, Mykolayiv, Odess, Pivdenne, Reni
Merchant marine	total: 379 ships ships by type: barge carrier 7, bulk 55, cargo 221, chemical tanker 2, container 20, multifunction large-load carrier 1, oil tanker 10, passenger 12, passenger-cargo 5, railcar carrier 2, refrigerated cargo 5, roll-on/roll-off cargo 32, short-sea passenger 7

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ACTIVITY 3
UKRAINE: FACT SHEET

Airports	total:	706
	with paved runways over 3,047 m:	14
	with paved runways 2,438 to 3,047 m:	55
	with paved runways 1,524 to 2,437 m:	34
	with paved runways 914 to 1,523 m:	3
	with paved runways under 914 m:	57
	with unpaved runways over 3,047 m:	7
	with unpaved runways 2,438 to 3,047 m:	7
	with unpaved runways 1,524 to 2,438 m:	16
	with unpaved runways 914 to 1,523 m:	37
	with unpaved runways under 914 m:	476

Communications

Telephone system	7,886,000 telephones circuits; about 151.4 telephone circuits/1,000 persons (1991); the telephone system is inadequate both for business and for personal use; 3.56 million applications for telephones had not been satisfied as of January 1991; electronic mail services have been established in Kiev, Odessa, and Luhans´k by Sprint

Source: CIA World Fact Book

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ACTIVITY 4
LATVIA: Timeline

World History		Latvia History
	BC c. 100-600	Golden age of Baltic tribes, characterized by trade and cultural progress
Roman Empire divided into Western Roman Empire and Eastern Roman Empire	395	
	800s	Viking invasion and influence
Frankish Empire under Charlemagne	800-814	
Great Schism between Roman Catholic and Eastern Orthodox Churches	1054	
Crusades	1096-1291	
Mongolian invasions of Europe	1200s	
	c 1200	Northern Crusade by Germans, Danes, and Swedes to convert Balts to Christianity
	1237	Livonia (present-day Estonia and Latvia) under control of Livonian Knights, a German crusading order
Columbus reaches New World	1492	
Martin Luther begins Protestant Reformation	1517	
	1561	Unable to stem Russian onslaught, Livonian Knights disband; Latvia comes under Polish rule and Livonia is divided among Denmark, Sweden, and Poland
Thirty Years' War	1618-1648	
	1629	Following military defeat, Poland cedes northern Latvia to Sweden
	1721	Following victory over Sweden in Great Northern War (1700-1721), Russia gains possession of northern Latvia
American Declaration of Independence	1776	
French Revolution	1789	
	1795	Russia absorbs remainder of Latvia during partition of Poland

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ACTIVITY 4
LATVIA: Timeline

Napoleonic Wars	1803-1815	
World War I	1914-1918	
Russian Revolution	1917	
	1918	Independent Latvia established amid upheaval of Russian Revolution
	1920	Following Baltic War of Liberation (1918-1920), Bolshevik Russia recognizes Latvia's independence
	1939	Secret Soviet-German pact acknowledges Soviet hegemony over Baltic states; following Germany's attack on Poland launching World War II, Soviet forces occupy Latvia
World War II	1939-1945	
	1940	Latvia annexed into Soviet Union as Latvian Soviet Socialist Republic
	1941-1944	German occupation during World War II
	1990	Reform government announces Latvia's intention to secede from the Soviet Union; Soviet military and economic crack down against Latvian independence
Demise of Soviet Union	1991	Independent Latvia recognized by Moscow amid collapse of Soviet Communist state

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ACTIVITY 5
LATVIA: Fact Sheet

Geography

Location	Eastern Europe, bordering the Baltic Sea, between Estonia and Lithuania
Map References	Europe
Area	Total area: 64,100 sq. km. Land area: 64,100 sq. km. Comparative area: slightly larger than West Virginia
Land Boundaries	total 1,078 km., Belarus 141 km., Estonia 257 km., Lithuania 453 km., Russia 217 km.
Coastline	531 km.
Climate	maritime; wet, moderate winters
Terrain	low plain
Natural resources	minimal; amber, peat, limestone, dolomite
Land use	arable land: 27% permanent crops: 0% meadows and pastures: 13% forest and woodland: 39% other: 21%
Irrigated land	160 sq. km. (1990)
Environment	current issues: air and water pollution because of lack of waste conversion equipment; Gulf of Riga and Daugava River heavily polluted; contamination of soil and groundwater with chemicals and petroleum products at military bases

People

Population	2,762,899 (July 1995 est.)
Age structure	0-14 years: 22% (female 294,521; male 304,830) 15-64 years: 65% (female 933,003; male 870,128) 65 years and over: 13% (female 247,476; male 112,941) (July 1995 est.)
Population growth rate	0.05% (1995 est.)
Birth rate	13.71 births/1,000 population (1995 est.)

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ACTIVITY 5
LATVIA: Fact Sheet

Death rate	12.49 deaths/1,000 population (1995 est.)
Infant mortality rate	21 deaths/1,000 live births (1995 est.)
Nationality	noun: Latvian(s) adjective: Latvian
Ethnic divisions	Latvian 51.8%, Russian 33.8%, Byelorussian 4.5%, Ukrainian 3.4%, Polish 2.3%, other 4.2%
Religions	Lutheran, Roman Catholic, Russian Orthodox
Languages	Lettish (official), Lithuanian, Russian, other
Literacy	age 15 and over can read and write (1989) total population: 100% male: 100% female: 99%
Labor force	1.407 million by occupation: industry and construction 41%, agriculture and forestry 16%, other 43% (1990)

Government

Type	republic
Capital	Riga
Independence	6 September 1991 (from Soviet Union)
National holiday	Independence Day, 18 November (1918)
Constitution	newly elected Parliament in 1993 restored the 1933 constitution
Legal system	based on civil law system
Suffrage	18 years of age; universal
Executive branch	chief of state: President head of government: Prime Minister cabinet: Council of Ministers; appointed by the Supreme Council
Legislative branch	unicameral
Judicial branch	Supreme Court

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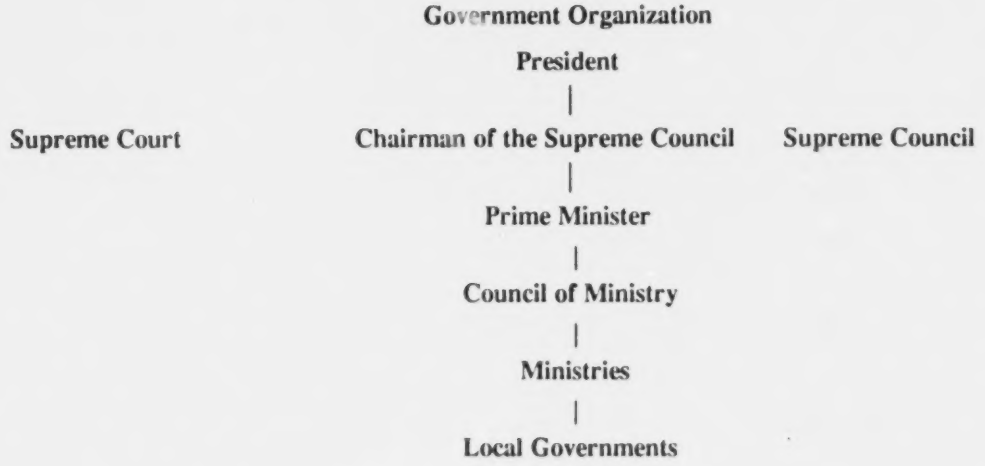
ACTIVITY 5
LATVIA: Fact Sheet

Flag — two horizontal bands of maroon (top and bottom), white (middle, narrower than other two bands)

Government Organization



Economy

Overview — Latvia is rapidly becoming a dynamic market economy, rivaled only by Estonia among the former Soviet states in the speed of its transformation. However, the transition has been painful, in 1994 the IMF reported a 2% growth in GDP, following steep declines in 1992-93. The government's tough monetary policies and reform program have kept inflation at less than 2% a month, supported a dynamic private sector now accounting for more than half of GDP, and spurred the growth of trade ties with the West. Much of agriculture is already privatized and the government plans to step up the pace of privatization of state enterprises. Latvia thus is in the midst of recovery, helped by the country's strategic location on the Baltic Sea, its well-educated population, and its diverse — albeit largely obsolete — industrial structure.

National product — GDP — purchasing power parity - $12.3 billion (1994 estimate as extrapolated from World Bank estimate for 1992)

National product real growth rate — 2% (1994 est.)

48

National product per capita — $4,480 (1994 est.)

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ACTIVITY 5
LATVIA: Fact Sheet

Inflation rate (consumer prices)	1.9% per month (1994)
Unemployment rate	6.5% (December 1994)
Exports	$1 billion (1994) commodities: oil products, timber, ferrous metals, dairy products, furniture, textiles partners: Russia, Germany, Sweden, Belarus
Imports	$1.2 billion (C.I.F., 1994) commodities: fuels, cars, ferrous metals, chemicals partners: Russia, Germany, Sweden, Ukraine
Industrial production	growth rate -9.5 (1994 est.); accounts for 27% of GDP
Industries	highly diversified; dependent on imports for energy, raw materials, and intermediate products; produces buses, vans, street and railroad cars, synthetic fibers, agricultural machinery, fertilizers, washing machines, radios, electronics, pharmaceuticals, processed foods, textiles
Agriculture	principally dairy farming and livestock feeding; products — meat, milk, eggs, grain, sugar beets, potatoes, vegetables; fishing and fish packing
Currency	1 lat = 100 cents
Fiscal year	calendar year

Transportation

Railroads	total: 2,400 km broad gauge: 24,00 km 1.520-m gauge (270 km electrified)
Highways	total: 59,500 km paved and graveled: 33.000 km unpaved: earth 26,500 km (1990)
Inland waterways	300 km perennially navigable
Pipelines	crude oil 750 km; refined products 780 km; natural gas 560 km (1992)
Ports	Daugavpils, Liepaja, Riga, Ventspils
Merchant marine	total: 85 ships ships by type: cargo 17, oil tanker 37, refrigerated cargo 24, roll-on/roll-off cargo 7

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ACTIVITY 5
LATVIA: Fact Sheet

Airports	total:	50
	with paved runways 2,438 to 3,047 m:	2
	with paved runways 914 to 1,523 m:	1
	with paved runways under 914 m:	27
	with unpaved runways 2,438 to 3,047 m:	2
	with unpaved runways 914 to 1,523 m:	2
	with unpaved runways under 914 m:	10

Communications

Telephone system	660,000 telephones; 240 telephones/1,000 persons (1993); Latvia is better provided with telephone service than most of the other former Soviet republics; an NMT-450 analog cellular telephone network covers 75% of Latvia's population

Source: CIA World Fact Book

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KLIPS AND KUPONS

INTRODUCTION

Under the Soviet command system, the funds required for pensions, health care, public transportation, public education, and other services were acquired through implicit taxation. The state, which owned the majority of the non-labor means of production and controlled the labor force, kept the difference between the revenues it earned from products it sold and the wages it paid. Because both prices and wages were controlled by the state, the tax rate could be changed by adjusting these variables.

As nations of the former Soviet Union began to privatize state enterprises, they lost this source of revenue. The newly independent states had to cut programs. This process hurt people who were dependent on the programs. Other choices faced by the governments included raising revenue by imposing explicit taxes, borrowing, or expanding the money supply.

The governments of many newly independent states chose to expand the money supply. This policy was a mistake and had serious side effects. The equation of exchange (MV = PQ) predicts that inflation will be the consequence of this policy. Continued rapid monetary expansion will produce inflation and, possibly, hyperinflation.

CONCEPTS

Inflation
Hyperinflation
Equation of Exchange
Nominal Gross Domestic Product
Real Gross Domestic Product

OBJECTIVES

- Define inflation and hyperinflation
- Use the equation of exchange to demonstrate how expanding the money supply may cause inflation and/or hyperinflation
- Recognize and describe the distortions and problems caused by inflation and hyperinflation

LESSON DESCRIPTION

The students participate in the Klips and Kupons simulation. During the simulation, they discover how a change in the money supply can cause changes in the price level. They formalize this discovery by relating the equation of exchange to their simulation results. Some of the consequences of inflation and hyperinflation are examined.

TIME REQUIRED

- Option 1 — one period, procedures 1-31
- Option 2 — three periods, with extension activities

MATERIALS

Enough copies of Activity 1 so that one half of the class receives 40 kupons each
One copy of Activity 2 for one half the class
One transparency of Visuals 1, 2, 3, and 4
Ten paper clips times one half the class
One copy of Activity 3 for each student
Optional: one copy of Activity 4 for each student

PROCEDURE

1. Ask students if they would like to have more money? Explain that you want more money, too. As a matter of fact, everyone would like more money. So, why doesn't the government print more money? Discuss their responses.

2. Tell the students that they will participate in a simulation called Klips and Kupons. The simulation creates a simple economy with one product, klips, and a monetary system based on the kupon.

3. To begin the Klips and Kupons simulation, divide the class into two groups. One group will be buyers and the other will be sellers.

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4. Appoint two students to assist you: a central banker who will distribute the money to the buyers and a producer who will distribute the klips to the sellers.

5. Tell the students that as they play the game, they should note any changes in the economic conditions of their economic system and how the changes affect the players.

6. Explain that there will be a ten-minute trading round. (Time may vary depending on class size and length of class period.) During the trading round, the objective for sellers is to sell klips at the highest possible price and the objective for buyers is to buy at the lowest price they can negotiate.

7. Emphasize the following rules:

A. Klips must be traded in multiples of one kupon. (This will expedite the calculation of the price level at the end of each round.) For example, one klip for three kupons is a legal trade; two klips for three kupons is not a legal trade.)

B. Each transaction must be entered by the seller on Activity 2.

NOTE: You may want to offer a prize to the best seller and the best buyer.

8. Distribute a copy of Activity 2 to each seller.

9. To begin round one, distribute ten klips to each seller and ten kupons to each buyer.

10. Allow ten minutes for trading. At the end of the time period, stop trading and ask students to return to their seats.

11. Have students count their klips or kupons. The winning buyer is the buyer with the most klips. The winning seller is the seller with the most kupons.

12. Instruct the central banker and producer to collect the klips and kupons and prepare bundles for Round 2 (ten klips/seller and twenty kupons/buyer)

13. While the assistants prepare the bundles, display Visual 1 and record all of the sellers' transactions. Calculate the average price/klip and display the results on the transparency. Because the simulation depicts an economy with only one producer, the average price is also the price level.

14. Instruct the central banker and producer to distribute klips and kupons for Round 2 to the sellers and buyers.

15. Remind students to enter each transaction on Activity 2. Allow ten minutes for trading. At the end of the time period, stop and ask students to return to their seats.

16. Have students count their klips or kupons. The winning buyer is the buyer with the most klips. The winning seller is the seller with the most kupons.

17. Instruct the central banker and producer to collect the klips and kupons and prepare bundles for Round 3 (ten klips/seller and forty kupons/buyer).

18. While the assistants prepare the bundles, display Visual 1 and record all of the sellers' transactions. Calculate the average price/clip and display the results on the transparency.

19. Instruct the central banker and producer to distribute klips and kupons for Round 3 to the sellers and buyers.

20. Allow ten minutes for trading.

21. Display Visual 1 and record all of the sellers' transactions. Calculate the average price/klip, and display the results on the transparency.

22. Ask the students which variables changed in each round and the effects of those changes. (The

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money supply increased; the supply of klips was constant; and the price level rose in each round.)

23. Display the first half of Visual 2. Ask students if the economy experienced inflation. Emphasize the relationship between the expansion of the money supply and the rise in the price level.

24. Explain that both inflation and hyperinflation provide an incentive to consume to maximize purchasing power. If the interest rate paid on savings is lower than the inflation or hyperinflation rate, there is a disincentive to save. Discuss:

A. Do debtors benefit from unexpected inflation? (Yes.) Why? (They pay off debts/contracts with money that has less purchasing power than the money borrowed.)

B. Do creditors benefit from unexpected inflation? (No.) Why? (They receive money in payment of debts/contracts that has less purchasing power than the money loaned)

C. Does the government benefit from unexpected inflation? (Yes. Government and businesses are net debtors. The government benefits from inflation because it retires its debts with currency that has less purchasing power.)

25. Display Visual 3. Explain that the term on the right side of the equation — PQ — represents nominal Gross Domestic Product (GDP). Nominal GDP is the value of the final goods and services produced within a nation during a year. The word "nominal" indicates that the value has not been adjusted for inflation.

26. Display Visual 1 and calculate the nominal GDP by multiplying the total number of klips sold times the average price.

27. Direct students' attention to the left side of the equation. Explain that "M" stands for the supply of money. In the klips and kupons simulation, M was increased in each round.

28. Ask students which variable on the left side of the equation increased as a result. (P or price level because the number of klips remained constant in each round.)

29. Explain that "V" stands for the velocity of money. Velocity is the average number of times a unit of money changes hands in a specified time period.

30. Ask students for the velocity of money in the simulation. (Because each kupon was exchanged one time in each round, the velocity per round was one.)

31. Explain that when nations report GDP data, they typically adjust nominal GDP for inflation. The resulting term is called real GDP. Real GDP measures the value of the goods and services produced in an economy in "constant prices." The general rate of inflation has been taken into account. Discuss:

A. In the simulation, what was the output in each round? (ten klips times the number of sellers)

B. Did the nominal GDP increase in each round? (Yes.) Why? (The price level increased.)

C. Did the real GDP increase in each round? (No.) Why? (The number of klips remained constant at ten times the number of sellers.)

D. Display Visual 2 and ask what the economy experienced. (inflation)

E. Display Visual 4. Have students discuss the inflation rates that have occurred in Eastern Europe, the Baltics and the Commonwealth of Independent States since 1990. Have the students compare the inflation of Klips and

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Kupons to the inflation in these nations. (The simulation rate was lower.)

F. If the output in these nations remained constant, which variable was likely to have caused the hyperinflation? (increase in the money supply)

NOTE: Most of these countries have reduced money supply expansion dramatically since 1993, and inflation rates have decreased accordingly.

CLOSURE

1. Ask the students the following questions.

A. If everyone wants more money, why doesn't the government just print. more? (An increase in the money supply may result in inflation and reduce the purchasing power of the money.)

B. Relate the equation of exchange to their answers.

2. Ask the students to review who benefits and who loses from unexpected inflation. (Answers would include: people who benefit — debtors; people who lose — savers, people living on fixed incomes)

ASSESSMENT

1. Distribute a copy of Activity 3 to each student.

2. Instruct students to complete Part A of Activity 3. After assessing the validity of each statement, have the students explain who would lose during a period of inflation.

3. Instruct students to complete Part B of Activity 3. Have each student write two more examples of players who would benefit or lose during a period of unexpected inflation.

4. Instruct students to complete Part C and review their responses.

EXTENSION

1. As a class, calculate the rate of growth in the money supply as follows:

$[(M_2 - M_1)/M_1] \times 100$ = percent rate of growth of the money supply

$[(M_3 - M_2)/M_2] \times 100$ = percent rate of growth of the money supply

Where:

M_1 = ten kupons x the number of buyers in the class

M_2 = twenty kupons x the number of buyers in the class

M_3 = forty kupons x the number of buyers in the class

2. Calculate the inflation rate

[(price of market basket $_{(round\ 2)}$ - price of market basket $_{(round\ 1)}$) ÷ price of market basket $_{(round\ 1)}$] x 100 = rate of inflation as a percentage

[(price of market basket $_{(round\ 3)}$ - price of market basket $_{(round\ 2)}$) ÷ price of market basket $_{(round\ 2)}$] x 100 = rate of inflation as a percentage

Market basket is a term used by economists. It represents a bundle of goods purchased by consumers. In the klips and kupons simulation only one good was produced. Therefore, the market basket is klips.

The base year is the year that is used for comparison.

Price of Market Basket $_{(Round\ 1)}$ = average price/klip

Price of Market Basket $_{(Round\ 2)}$ = average price/klip

Price of Market Basket $_{(Round\ 3)}$ = average price/klip

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3. Ask the students to relate the two statistics to the Equation of Exchange. The students should note that the Money supply represents M in the equation and that the inflation rate shows the change in the price level (P) over a period of time.

4. Ask students if there is a correlation between the growth of the money supply (calculated in step 1) and the rate of inflation, calculated in step 2. The students should recognize that, in general, there is a positive (direct) relationship between the two statistics. As the money supply increases the rate of inflation increases. Discuss:

A. If output (Q) increased by 5%, the money supply (M) increased by 5%, and velocity (V) remained the same, what would happen to the price level (P)? (The average price level would stay the same.)

B. If output (Q) increased by 7%, the money supply (M) increased by 5%, and velocity stayed the same, what would happen to the average price level (P)? (It would decrease.)

C. If output (Q) decreased by 5% and the money supply (M) increased by 7% with velocity constant, what will happen to the average price level (P)? (It will increase.)

5. Distribute a copy of Activity 4 to each student. Explain that the next class session will be held in the library. Students should select one of the cases listed and use the library time to research and answer the questions. This information will be discussed in the class session following the library meeting.

6. Allow time for students to review their case studies. Ask them to relate case study examples to the generic examples from Activity 3, Test Your IQ (Inflation Quotient).

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VISUAL 1
TALLY SHEET

Price in Kupons	Round 1 Number of Klips Sold	Round 2 Number of Klips Sold	Round 3 Number of Klips Sold
15			
14			
13			
12			
11			
10			
9			
8			
7			
6			
5			
4			
3			
2			
1			
Average price/klip			
Nominal GDP			

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VISUAL 2

INFLATION — a sustained increase in the average price level of the entire economy. It can be caused by an expanding money supply.

Inflation can lead to distortions in consumption, saving, and investment decisions. It can cause a loss of confidence in the nation's financial markets.

HYPERINFLATION: It is defined by the International Monetary Fund as inflation at an annual rate of 200% for, at least, one year.

If people expect hyperinflation, they will spend earnings as quickly as possible and avoid holding money. Money will rapidly lose its purchasing power. In historic cases, hyperinflation has caused the collapse of financial markets, a massive redistribution of income from savers to debtors, and a return to a barter exchange system.

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VISUAL 3

The Equation of Exchange

$$\mathbf{MV = PQ}$$

M — Quantity of Money in the Economy

V — Velocity of Money

P — Price Level

Q — Total Final Output Produced

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VISUAL 4
INFLATION IN EASTERN EUROPE, THE BALTICS AND THE COMMONWEALTH OF INDEPENDENT STATES[1]

	Retail/consumer prices (end-year)			
Country	1991	1992	1993	1994 (est.)
	(percentage change)			
Albania	104	237	31	16
Belarus	93	1558	1994	1957
Bulgaria	339	79	64	122
Czech Republic	52	13	18	10
Estonia	304	954	36	42
Hungary	32	22	21	21
Kyrgyzstan	170	1771	1366	87
Latvia	262	958	35	26
Poland	60	44	38	29
Russia	144	2318	841	203
Ukraine	161	2000	10155	401

Source: "Statistical Tables," *The Economics of Transition*, Vol. 4., No. 1, 1996, p. 283.

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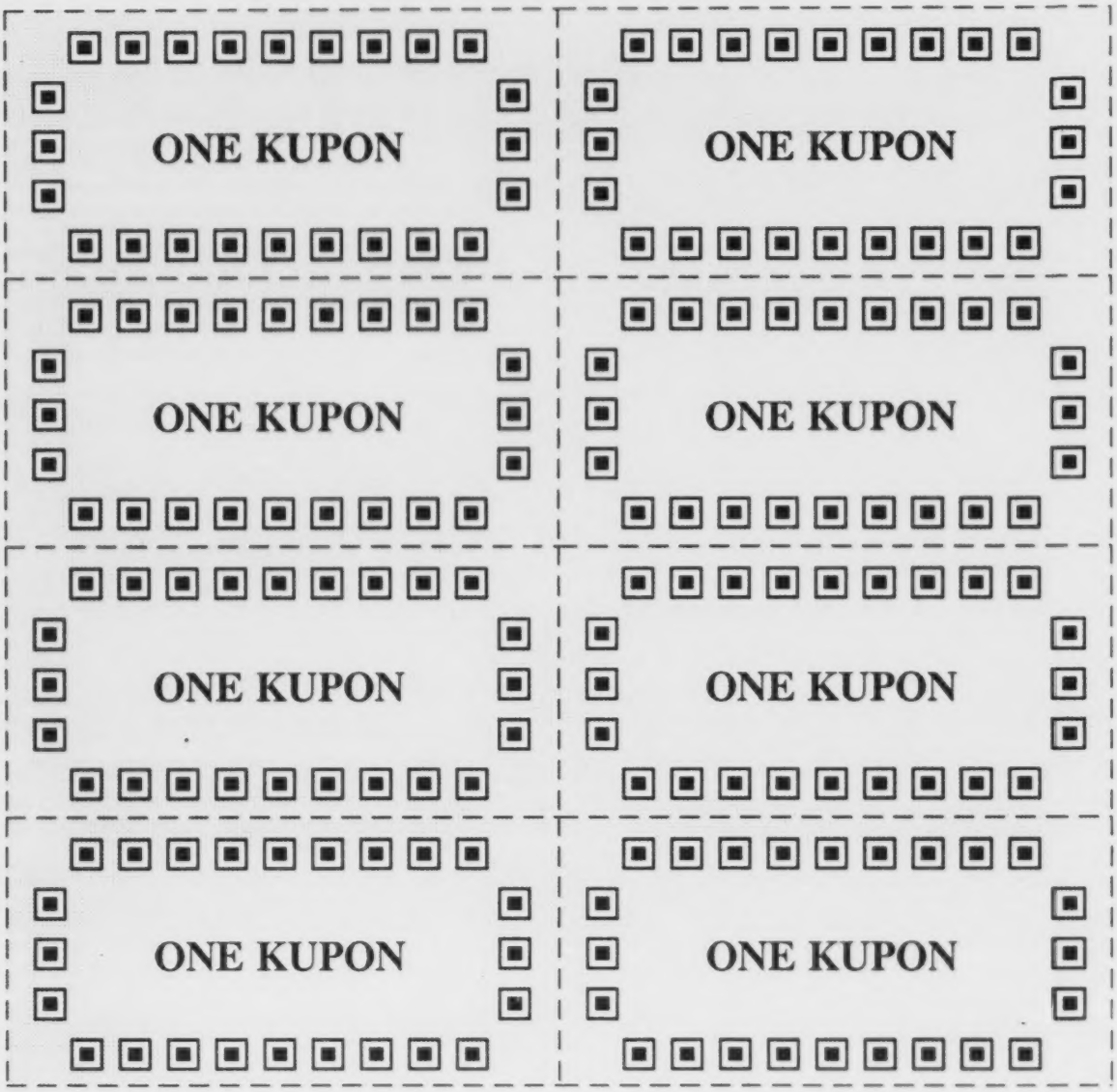
ACTIVITY 1
KUPONS



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ACTIVITY 2
TRANSACTION SHEET

ROUND ONE

Transaction	Number of Klips Sold	Number of Kupons Received	Price/Klip
1			
2			
3			
4			
5			
6			
7			

ROUND TWO

Transaction	Number of Klips Sold	Number of Kupons Received	Price/Klip
1			
2			
3			
4			
5			
6			
7			

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ACTIVITY 2 (Continued)
TRANSACTION SHEET

ROUND THREE

Transaction	Number of Klips Sold	Number of Kupons Received	Price/Klip
1			
2			
3			
4			
5			
6			
7			

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ACTIVITY 3
TEST YOUR IQ (Inflation Quotient)

Part A: True (+) or False (0)

_____ 1. Inflation encourages consumption.

_____ 2. Inflation encourages investment.

_____ 3. Hyperinflation is defined as inflation at an annual rate of 500% or more prevailing in a nation for at least a year.

_____ 4. Hyperinflation causes disruption to a nation's financial industry.

_____ 5. Hyperinflation causes a redistribution of income from savers to debtors.

Part B: Who benefits from inflation? Who loses? Read the following descriptions and decide whether the economic player benefits (+) or loses (-) in the following inflationary scenarios. Choose (?) if you believe the effect cannot be determined.

_____ 1. A Ukrainian World War II veteran living on a fixed government pension of 150 kupons/month during a period of inflation.

_____ 2. A secretary who borrowed 100,000 kupons at 18% to buy her flat from the government during a period of hyperinflation.

_____ 3. A Russian investor who earns dividends on a recently privatized corporation during a period of inflation.

_____ 4. An engineer with a savings account balance of 25,000 kupons during a period of hyperinflation.

_____ 5. A teacher who signs a contract for a salary of 50,000 for the school year during a period of hyperinflation.

Part C: In 1995 the Ukrainian government issued bonds that paid 91% interest. The government sold none of the bonds. Explain.

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ACTIVITY 3 (Answers)
TEST YOUR IQ (Inflation Quotient)

Part A: True (+) or False (0)

+ 1. Inflation encourages consumption.

0 2. Inflation encourages investment.

0 3. Hyperinflation is defined as inflation at an annual rate of 500% or more prevailing in a nation for at least a year.

+ 4. Hyperinflation causes disruption to a nation's financial industry.

+ 5. Hyperinflation causes a redistribution of income from savers to debtors.

Part B: Who benefits from inflation? Who loses? Read the following descriptions and decide whether the economic player benefits (+) or loses (-) in the following inflationary scenarios. Choose (?) if you believe the effect cannot be determined.

0 1. A Ukrainian World War II veteran living on a fixed government pension of 150 kupons/month during a period of inflation.

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? 3. A Russian investor who earns dividends on a recently privatized corporation during a period of inflation.

0 4. An engineer with a savings account balance of 25,000 kupons during a period of hyperinflation.

0 5. A teacher who signs a contract for a salary of 50,000 for the school year during a period of hyperinflation.

Part C: In 1995 the Ukrainian government issued bonds that paid 91% interest. The government sold none of the bonds. Explain.

The inflation rate must have exceeded 91%. The purchase bonds would be a poor decision because the bonds would have had less purchasing power when they matured than when they were purchased.

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ACTIVITY 4
A CASE STUDY OF HYPERINFLATION

Choose a case and answer the questions:

Germany — early 1920s
China — late 1940s
Bolivia — 1985
Argentina — 1989
Brazil — 1989
Russia — 1992
Ukraine — 1992

1. What event(s) triggered the hyperinflation?

2. What was the highest rate of inflation during the period of hyperinflation?

3. Identify two costs of the hyperinflation.

4. What policies were adopted to cure the hyperinflation? How successful were they?

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ECONOMIC TRANSITION: The Role of the State

INTRODUCTION

On March 6, 1990 the parliament of the Soviet Union voted 350 to 3 to approve a law allowing Soviet citizens the right to own small-scale factories ("means of production") — something that had been forbidden for over half a century. This law was a departure from the command economy and a vivid demonstration of the power of government to set the rules for the economic system. Although events since have overshadowed this law, with the collapse of the Soviet Union and establishment of successor states trying to develop more dynamic market economies, it is still a reminder of the power of government to write or rewrite the rules for the modern economy — the legal forms of institutions and incentives in the economic system. These rules are the legal forms of institutions and incentives in the economic system.

CONCEPTS

Economic System
Command Economy
Market Economy

OBJECTIVES

◆ Identify the state as the source of the legal forms of institutions and incentives in an economic system

◆ Explain the reasons for proposals to change economic rules and regulations for a particular aspect of the economy and reasons behind opposition to such a change

LESSON DESCRIPTION

Students in small groups, write the rules of a simple game — Tic-Tac-Toe. They then consider the more complicated rules and regulations appropriate for a market economy. Students also examine legislation designed to move some agricultural markets away from federal price supports to a more market-based approach. Finally, students consider the difficulties that economies in transition face in establishing rules and regulations to support a market economy.

TIME REQUIRED

◆ One class period

MATERIALS

Copies of Activities 1 and 2 for each student
Transparency of Visual 1

PROCEDURE

1. Explain that an important function of government is to develop the "rules of the game" for the economic system. This lesson will help students understand the process of rule making as well as the dynamics and tensions surrounding changes in the former Soviet republics.

2. Divide the class into an even number of small groups.

3. Instruct each group to write the rules for playing "Tic-Tac-Toe." Each group must select a person to record its rules and another person to report its rules to the class.

4. Allow time for students to complete their work.

5. Instruct groups to trade rules with another group in the classroom. Members of the group should read the rules that they've received and attempt to play the game by following those rules exactly. They should record any difficulties they have.

6. Instruct the groups to return the rules to the original groups.

7. Ask the reporter from each group to list the group's rules on the board. (Rules should include: drawing two vertical lines with two horizontal lines crossing the vertical lines so that nine spaces are

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created; two players compete — one drawing circles and the other drawing X's; players alternate turns; players make their mark in any vacant space until one of them manages to get three of his or her marks in a row (horizontally, vertically, or diagonally); winner then draws a line through his or her winning row and the game ends; if neither player forms a row, the game is a draw).

8. Discuss the following:

A. Is each group's set of rules clear and understandable? (Answers will vary.)

B. Is any group missing an important step? (Answers will vary.)

C. What problems did you encounter when you tried to play the game? (Answers will vary.)

D. What problems might occur if people played with incomplete rules? (mistakes, inability to play or complete the game)

E. What might happen if we changed one of the rules for tic-tac-toe after people were already playing under the existing rules? (confusion, people might stop playing, frustration)

F. Suppose that you were asked to write the rules for professional baseball, would your task be easier or harder than writing the rules for tic-tac-toe? (Students should indicate that writing the rules for baseball would be much more difficult.) Why? (There are more players; each player has more choices or options; the rules and duties of officials must be delineated.)

G. How difficult would it be to establish the rules for an economic system? (much more difficult) Why? (There are more players. The rules must delineate types of ownership; describe rules and regulations for various institutions, such as banks, insurance companies, or stock markets; establish consumer protection, protect legal contracts, and enforce property rights.)

H. Given your observations and what you have learned, describe an economic system. (Answers will vary.)

I. Explain that an economic system is the set of institutions, laws, activities, controlling values, and human motivations that collectively provide a framework for economic decision making.

J. Given your observations and what you have learned, describe a market economy. (Answers will vary.)

K. Explain that a market economy is a system of decentralized decision making by consumers and producers interacting in markets.

L. Given your observations and what you have learned, describe a command economy, such as the former Soviet Union.

M. Explain that a command economy is a system in which most important economic decisions are made by a central authority, such as a government planning agency.

9. Remind students that the former Soviet Union was primarily a command economy. Most modern economies are "mixed." For example, although the United States is primarily a market economy, there are elements of command in the U.S. economy.

10. Distribute a copy of Activities 1 and 2 to each student. Explain that these activities deal with government intervention in the U.S. economy — a command feature.

11. Instruct students to read Activity 1 and then complete Activity 2. Discuss:

A. What is the issue that the U.S. Senate debated? (whether to end crop subsidies on

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wheat, corn, feed grains, rice, and cotton and move toward a freer market in U.S. agriculture)

B. What were the arguments of the proponents of the Freedom to Farm bill? (They believed that farmers must be given freedom to make economic decisions without government restrictions, that the federal farm programs of the last sixty years should be ended, and that this freedom would save taxpayers at least $12 billion in the next seven years. This group upholds the values of a free market and lower prices for consumers.)

C. Why were some senators opposed to the bill? (They thought that the Senate was recklessly removing a safety net that protected farmers against the risk of failure in bad times. This group upholds the values of ensuring economic security for the farmers and maintaining this "safety net" to protect producers.)

D. If the House of Representatives and the President were to concur with the bill passed by the Senate, would the changes to these U.S. agricultural markets occur immediately? (No, the changes would take place over a seven-year period. During that time, farmers could receive "market transition payments.")

E. Why did the plan include a seven-year transition with payments to farmers of up to $40,000 each? (to allow time for farmers to plan, time for farmers to adjust to a new system, and time to reduce fears and apprehensions among farmers and state politicians)

12. Explain that this article deals with the attempt of a group of Senators to partially change agriculture, which is only one segment of the U.S. economy, from a government-regulated toward a market-oriented approach. Discuss:

A. What does this suggest about the difficulties — economic, political, and psychological — faced by the former Soviet republics in transforming from command to market economies? (Transition is complex and difficult.)

B. What difficulties might these countries encounter? (fears and apprehensions among consumers and producers, loss of jobs, need for a transition "safety net" to make change acceptable to various sectors of the economy, lack of experience in market-oriented rules and regulations, development of an economic infrastructure that complements a market system)

C. What approaches might these countries take? (gradual or rapid; Ukraine has taken a gradual transition approach; Poland has taken a rapid transition approach.)

13. Display the transparency of Visual 1. Explain that this table provides a measurement of the degrees of economic freedom in 1989 before the break-up of the Soviet Union and after the break-up in 1994. Several economists developed indexes that measure the liberalization of internal markets, foreign trade, and the entry of firms into the private sector. The numbers in the table are the mean of all three. A score of zero would indicate a typical command economy. A score of 100 would correspond to a typical industrialized, market-oriented economy. Discuss:

A. Which country had the highest level of economic freedom in 1994? (East Germany) Why? (East Germany has been reunified with West Germany. The economy of East Germany now operates under greater market-oriented rules and regulations.)

B. Which country had the lowest level of economic freedom in 1994? (Turkmenistan) Why? (It would appear the state has not instituted market-oriented reforms.)

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C. Which countries have come the furthest in terms of economic freedom? (the Baltics of Estonia, Latvia, and Lithuania; Czech Republic; Slovakia)

D. Which countries have not come very far in terms of economic freedom? (Aremenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan)

14. Conclude with the idea that reforms are taking place in the transition economies. However, there is a great deal of variance among the countries. The changes in the legal forms of institutions and incentives in these economies may be quite different from one country to another. Government policies in some countries are aggressive in their reforms to generate a market economy. In others, the reforms are "on paper" but are not in effect. Only time will tell which countries will succeed in generating strong economies that have increasing standards of living.

CLOSURE

1. Remind students that it was difficult to write rules for the simple game of tic-tac-toe and that it would be extremely difficult to write rules and regulations for something as large and complex as an economy.

2. Describe an important "rule of the game" a government develops in a market economy. (establishing a legal framework that defines property rights, enforces contracts, encourages competitive conditions)

3. How does the U.S. decide on how much government intervention should exist? (As long as the additional benefit from a proposed policy or program exceeds the additional cost, the government intervention will be deemed to be desirable. However, people's viewpoints regarding the costs and benefits differ widely.)

ASSESSMENT

1. Ask students to identify rules and regulations affecting each of the following businesses.

A. dry cleaner
B. construction
C. dental services
D. restaurants

2. Ask students to consider a possible change in the rules for high school graduation. Conduct a debate to analyze the pros and cons of the change.

EXTENSION

1. Ask students to conduct follow-up research on the Freedom to Farm bill. They should find out what happened to the bill in the House of Representatives. Then they should conduct an analysis to explain the final result.

2. Write a short essay about a rule change made by the U.S. government, such as the deregulation of the communication or airline industry. Explain the rationale for the change, and describe the consequences. Express your opinion about whether the rule change was "good" for the economy.

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ACTIVITY 1
FREEDOM TO FARM

During the Great Depression of the 1930s, the federal government began a farm policy of price supports to assist farmers. After World War II, special interest groups worked hard to ensure that the price support programs remained in effect. In general, the programs encouraged farmers to restrict output to help keep prices relatively high, and the government provided subsidies if prices were relatively low.

In February 1996, the U.S. Senate passed a "Freedom to Farm" bill which promised to dramatically change 60 years of farm policy. The Senate intended to eliminate the past formula of support. Farmers with a history growing wheat, corn, feed grains, rice, or cotton would be guaranteed a specified, but declining, payment for seven years. This annual payment would not depend on crop prices, crops planted, or crops harvested. If those farmers planted nothing for seven years, they would still receive the annual payments, called market transition payments, limited up to $40,000 per person. The only requirements were that the farmland included had been enrolled in a recent farm program and that farmers followed conservation rules.

Supporters of the Freedom to Farm bill claimed that the program would save taxpayers $12 billion over the seven years. This amount would add up to even greater savings as the years progressed. Some proponents of the bill thought that it didn't go far enough. They wanted to eliminate subsidies for sugar and peanut growers. Over the years, they claimed, these subsidies have increased the costs of products using sugar and peanuts, thereby increasing prices to consumers. Senator Bob Dole stated, "Farmers will finally plant for the market and not the government. The government is going to get out of the supply-control business."

Some opponents of the Freedom to Farm bill were concerned that the bill would threaten the economic security of farmers by removing an income safety net that has helped farmers in times of low prices for their crops.

Source: St. Louis Post-Dispatch, Thursday, February 8, 1996.

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ACTIVITY 2
FREEDOM TO FARM ANALYSIS

After reading Activity 1, answer the following questions.

1. What is the main issue being debated by the United States Senate?

2. Explain the two "sides" of the debate and the values that each side was upholding?

3. What changes will occur as a result of this policy?

4. Will the changes occur immediately? Yes _____ No _____ Why?

5. What is the Senate hoping to do with these changes?

6. What are the costs and benefits of these changes for:

   a. farmers?

   b. consumers?

   c. taxpayers?

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VISUAL 1

Political and Economic Liberalization, 1989-1994

	1 Democratic Rights Index 1989	2 Democratic Rights Index 1994	3 Government Revenues % of GDP 1989	4 Government Revenues % of GDP 1994	5 Degree of Economic Freedom 1989	6 Degree of Economic Freedom 1994
Albania	0	58	48	28	0	73
Armenia	25	58	52	28	3	43
Azerbaijan	25	17	26	35	3	37
Belarus	25	50	38	35	3	37
Bulgaria	0	83	60	38	13	73
Croatia	42	50	15	27	43	87
Czech Republic	17	92	62	51	0	90
East Germany	17	92			0	100
Estonia	25	75	43	35	7	90
Georgia	25	33	32	8	3	37
Hungary	58	92	59	52	37	87
Kazakhstan	25	25	41	17	3	40
Kyrgyzstan	25	58	39	24	3	77
Latvia	25	75	52	36	3	80
Lithuania	25	83	50	25	3	83
Macedonia	42	58	36	47	43	80
Moldova	25	50	35	17	3	57
Mongolia	0	75	49	28	0	67
Poland	58	83	41	46	23	87
Romania	0	58	51	33	0	73
Russia	25	58	41	28	3	67
Serbia & Montonegro	42	17	34	30		
Slovakia	17	75	62	50	0	87
Slovenia	42	92	42	47	43	83
Tajikistan	25	0	40	27	3	30
Turkmenistan	25	0	32	6	3	23
Ukraine	25	58	26	42	3	27
Uzbekistan	25	0	35	83	3	43
Mean	25	56	42	32	10	65
Population-Weighted Mean	27	57	40	33	7	63

Sources: Column 1, an aggregation of the information in Freedom House (1989); column 2, an aggregation of the information in Karatnysky (1995); column 3, World Bank (1995a); column 4, multiple Wold Bank and IMF sources; columns 5 and 6, De Melo, Denizer and Gelb (1995), supplemented by author's calculations.

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LESSON SIX

ALL FOR ONE, ONE FOR ALL — WELL MAYBE: Problems Within a Tightly Controlled Industrial Structure

INTRODUCTION

By the 1870s in the United States, hundreds of corporations were chartered annually, creating fierce competition. Various methods of consolidation were devised by business leaders to eliminate the competition. Monopolistic structures tended to provide tighter control over the market and higher profits for stockholders.

In the late 1880s and 1890s, egalitarian norms of American society emerged, and many people demanded that the government regulate business practices. The general public wanted the rights of the consumer and the small business owner to be protected. As a result, the federal government was pushed into passing legislation regulating monopolies.

Under the Soviet command system, it was common to find only one or two very large factories that produced 100 percent of a good. Limiting the number of factories allowed the centrally planned government to execute its industrial plan. State planners believed strongly in the advantages of economies of scale. As the command economy evolves into a market economy, the monopolies may become private monopolies.

Under freer market conditions, new firms may enter some industries and increase competition, thereby decreasing the market power of the existing monopolies. The governments of many newly independent states are encouraging competition through the development of new domestic investment and/or foreign investment.

Under the central plan, consumers paid relatively low prices for many goods and services. These government-imposed price controls on industries resulted in shortages. With freer markets, many of those shortages may be eliminated.

Tax policies towards industries provide governments with a special challenge. The governments of the newly independent states need tax revenues, but must be careful that their tax policies do not discourage economic activity.

CONCEPTS

Monopoly
Market Economy
Economies of Scale
Price Controls

OBJECTIVES

- Define monopoly
- Analyze the effects of monopoly
- Define economies of scale
- Analyze the effects of price controls
- Identify some of the difficulties of restructuring

LESSON DESCRIPTION

Students engage in two simulations. The first simulation introduces the concept of monopoly. Students discuss the consequences of monopolistic markets.

In the second simulation, students experience the effects of price controls and identify how shortages are eliminated in a market economy. Students use this knowledge to analyze the problems of transition in the former Soviet republics and Eastern Europe.

TIME REQUIRED

- One or two class periods

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LESSON SIX

MATERIALS

3 copies of Activity 1 for each seller
3 pair of scissors
3 rulers
3 pencils
3 glue sticks
3 compasses (geometry instrument)
3 sheets of large poster board
5 sheets of 9" x 12" red paper
6 sheets of 9" x 12" green paper
18 sheets of 9" x 12"blue paper
Enough copies of Activity 2 so that each production team has $50
1 bag of miniature candy bars

PROCEDURE

Day One

1. Explain that the class will participate in a game.

2. Select one student to sell red paper, three students to sell green paper, and nine students to sell blue paper.

3. Give each of the sellers the appropriate card from Activity 1.

4. Divide the remaining students into three teams. Provide each team with $50 in MRT money, poster board, scissors, glue, compass, ruler, and pencil.

5. Explain that each team is to produce a picture using geometric figures (squares, circles, and triangles). The group must select a manager who will be responsible for maintaining production. The group will have twenty minutes to produce a picture, and it must adhere to the following rules.

   A. Use only squares, circles, and triangles.

   B. Squares must be green and 3" x 3".

   C. Circles must be red and 3" in circumference.

   D. Triangles must be blue and 3" equilateral.

   E. The picture must include an equal number of each geometric figure.

   F. There must be a minimum of fifteen of each geometric figure.

6. Explain that to produce pictures, the teams will want to buy paper. They will purchase the paper from the sellers.

7. Allow twenty minutes for production. At the end of the time period, discuss the following.

   A. What problems occurred during production? (Teams couldn't purchase enough paper because it was not available or the team could not afford the paper.)

   B. Why were red and green prices so high relative to blue prices? (There were no or few competitors selling these products.)

8. Explain that the red seller had a monopoly. Discuss:

   A. What is a monopoly? (A monopoly is a market in which there is a single seller of a good or service for which there are no reasonably close substitutes.)

   B. Why does the United States have regulations preventing monopolies? (Monopolies tend to result in higher prices and lower output than would occur under competitive conditions. The government usually encourages competition in our economy.)

   C. Can you think of some monopolies that exist legally in the U.S.? (utility companies)

9. Explain that in some cases monopolies are considered beneficial to society; therefore, government may allow them to exist. Electric power, natural gas, and telephone service are generally provided by monopolies within a specific geographic area. These are referred to as "natural" monopolies. They are permitted to be the sole supplier because they offer a more cost-efficient

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alternative to providing the goods and services. Some industries experience significant efficiencies from large-scale operation. If a firm increases its plant and equipment, along with other inputs, and finds that its per unit costs decrease, it is said to experience economies of scale. The cost savings are a function of running only one set of lines, pipes, and other transmission facilities to each house and business to distribute the utilities. Electric service would be very expensive if three companies provided electricity to an area. There would be three sets of wires going into every house and business. Each electric company could not fully utilize its plant and equipment making it very costly to supply electricity to only a portion of the market.

10. Point out that most monopolies are not natural monopolies. Many monopolies are created when political or social policies do not regulate trade. Political or social policies may subsidize a particular business by limiting access to the resources to a particular company or group. Governments may pass legislation, such as protective tariffs, which hinder free competition.

11. Explain that in the command economy of the former Soviet Union, monopolies were purposely created by the central government. Political leaders believed that concentrating economic production in the hands of a few would capitalize on economies of scale, help maintain full employment, and maintain economic stability. Monopolies were set up so that regions were interdependent. For example, almost all forklifts were produced in Kharkiv and Lviv, Ukraine. They were then distributed according to an elaborate central plan to the places where planners determined that they were needed. Discuss:

A. What are economies of scale? (Per unit costs decrease when a firm increases its plant and equipment, along with other inputs.)

B. If economies of scale are decreasing per unit costs as a result of increasing plant and equipment and other inputs, what do you think "diseconomies of scale" are? (increasing per unit costs when a firm increases its plant and equipment along with other inputs)

C. Explain that evidence suggests that many of the state enterprises in the former Soviet Union became so large that they suffered from diseconomies of scale. What things might create diseconomies of scale? (difficulties in distributing information from top to bottom or bottom to top, difficulties in monitoring production at all levels, possible high management costs)

D. Explain that when independence was declared by the former Soviet republics in the early 1990s, production of many goods was concentrated in certain newly independent states. This presented problems for businesses and consumers. Forklifts were produced in Ukraine. How could a factory in Kazakhstan now get forklifts? (build a forklift factory, which would take a long time and would be expensive; buy forklifts from Ukraine; buy forklifts from other countries)

E. Explain that the Soviets' heavy reliance on using a few factories in a few certain regions was to take advantage of economies of scale and to maintain economic interdependence. It has presented an economic challenge to the newly independent states. Ask students to think of some of the challenges. (1. The large-scale factories may be outmoded and not as cost-effective as factories in other parts of the world. 2. Buy products from other countries will require foreign exchange. The newly independent states do not have very much foreign exchange, so it would be difficult to buy from France or any other country. 3. New competitors may build new factories, but these factories require a large investment. The newly independent states do not have savings to invest. They could encourage foreign investment.)

12. Remind students that these industries were state monopolies. Ask how the industries could become private monopolies? (The government could issue vouchers to its citizens to be used to buy some ownership in the enterprises. Workers may be given shares. Foreigners may buy shares. These

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approaches have been used in most of the former Soviet republics with mixed success.)

13. Ask the students how the monopolies might be eliminated? (If buyers refused to buy the product, the firm should go out of business. Political and social institutions might change policies. For example, the government might provide tax credits to new industries that would compete with the existing monopolies.)

14. Explain that in the 1990s the Polish government, in an effort to promote industrial restructuring, conducted what analysts called "shock therapy." The government allowed foreign competitors to establish businesses in Poland, passed laws to protect those business, eliminated all price controls, established guidelines for government spending, and established incentives to promote more foreign investment. Although old state monopolies may have gone out of business, the increased competition appears to be healthy for the Polish economy.

15. Announce that during the next class, students will have the opportunity to buy candy to learn more about how the planned economy worked in the former Soviet Union. Explain that you will bring in candy. Ask for volunteers to bring a bag of miniature candy bars. Ask students to bring money with which they may purchase the candy.

Day Two

1. To begin the activity, announce that you will be the only person allowed to sell candy bars. You will sell candy bar bars at $.05 each on a first-come, first-served basis.

2. Ask students to line up if they are willing and able to buy, but not eat, the miniature candy bars at $.05 each. Ask the first student in line how many he or she will buy. Sell the amount demanded. If you have candy remaining, repeat this procedure with as many students as possible until you run out of candy.

3. After all students return to their seats, discuss:

A. Was everyone able to buy the amount of candy they were willing and able to buy? (No.) Why not? (Students wanted to buy more candy than was available at a price of $.05.)

B. What do we call a situation in which the quantity of a product consumers will buy at a particular price exceeds the quantity available for purchase? (shortage)

4. Explain that in the centrally planned economy of the former Soviet Union, prices for products were set by a planning authority. Prices were relatively "low" to consumers for certain goods and services, such as bread and apartment housing. As a result, persistent shortages for many products existed. This explains the pictures of long lines at stores that existed before 1990. Illegal markets also existed in which consumers would resell the products at a higher price. Discuss:

A. In a market economy, how are shortages eliminated? (In general, shortages are eliminated by allowing the price to rise. As the price increases, consumers will buy lower quantities, but producers are encouraged to produce more.)

B. What do you think would happen if the price of candy bars were allowed to increase? (Consumers would buy less, but more may be produced and available for sale.)

5. Ask the class if there are any students who would be willing to pay a price higher than $.05. Ask for prices they would be willing to pay.

6. Ask the students who brought candy if they would be willing to sell the candy at $.05. Ask if they would they be willing to sell at higher prices.

7. Explain you will allow five minutes for students to buy and sell candy among themselves.

8. At the end of five minutes, discuss:

A. Did a shortage of candy bars result? (No. Candy bars were demanded when the consumer was willing to pay the price.

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Candy bars were available when the producer was willing to accept the price. If consumers were not willing or were unable to pay the price, then they were not part of the market. If producers were not willing to sell at a given price, then they were not in the market.)

B. How can governments create shortages? (Price controls try to keep prices for goods and services, such as rental apartments and gasoline, below their market value. As a result, people are willing and able to buy a larger quantity than producers are willing to produce and sell. Therefore, a shortage occurs. For example, when faced with rent controls, owners of apartment buildings may convert the buildings to condominiums and sell the units. In some cases, if the cost of building maintenance is greater than the revenue the owner can generate by renting the apartments, they will simply close the building. As a result, the quantity of apartments decreases; however, at the lower rent, there are more people willing and able to rent. Hence, a shortage occurs.)

9. Explain that governments in the newly independent states recognize the economic importance of promoting competition and the development of new firms. Unfortunately, their policies may discourage the creation of competition and industrial restructuring from state to private companies. For example, the Ukrainian government instituted tax policies that required businesses to pay nearly 100% of their profits in taxes.

A. How would you think the Ukrainian private businesses would respond? (They would either go out of business or try to avoid the tax.)

B. Explain that many businesses and individuals have shifted their money into the underground economy, known as the "shadow" economy. Individuals refuse to report all taxable income for tax purposes. As a result, the government has not been successful in collecting tax revenues which are needed for economic restructuring.

CLOSURE

1. The central planners of the former Soviet Union believed strongly in economies of scale. Discuss:

A. What type of production occurred because of this belief? (very large state-run factories that were monopolistic in nature)

B. What are some of the difficulties that the newly independent states face as they eliminate the large state enterprises? (Are their enterprises marketable? Who will buy them? Should they be broken up into smaller enterprises? Should foreign investment be encouraged?)

2. Price controls were used by the central planners of the former Soviet Union to provide some goods and services at relatively low prices to consumers. Discuss:

A. What were the results? (shortages, long lines, the development of illegal markets)

B. How could the transition to a market economy potentially help the situation? (eliminate shortages, encourage production, discourage over consumption)

3. Remind students that tax policies of newly independent states have not always encouraged industrial restructuring or brought tax revenues to the government. When taxes are very high, economic activity may be curtailed. Taxes that are very high may result in undesirable consequences.

ASSESSMENT

1. Have students research a monopolistic industry in the United States. Tell them to defend the regulation or deregulation of the industry, identifying the benefits and costs.

2. "Competition is always good for the other guy, but not for my business!" Explain this attitude.

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EXTENSION

1. Have students conduct a debate on the pros and cons of monopoly versus competition.

2. Students may write an essay about the use of price controls for gasoline, identifying the benefits and costs of such a policy.

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ACTIVITY 1
Players' Instructions

Red Seller:

You have been given a monopoly over the resources. You are to set the price per sheet of paper as you deem appropriate. Do keep in mind that your buyers have been budgeted $50 and that they may have already purchased other materials before contacting you.

Green Seller:

There are three of you. Although you could compete against one another, you find it in your best interest to work together. As a group establish a higher price whereby you can share in a higher profit. Remember your buyers only have a $50 budget and that they may have already purchased other resources.

Blue Sellers:

There are nine of you wanting to sell your blue resources to the local factories. You want to sell your resources to the local factories. You want to sell your resources more quickly than the other blue sellers. You still want to make a profit in the process.

Blue Sellers:

There are nine of you wanting to sell your blue resources to the local factories. You want to sell your resources to the local factories. You want to sell your resources more quickly than the other blue sellers. You still want to make a profit in the process.

Blue Sellers:

There are nine of you wanting to sell your blue resources to the local factories. You want to sell your resources to the local factories. You want to sell your resources more quickly than the other blue sellers. You still want to make a profit in the process.

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ACTIVITY 2
MRT MONEY

MRT Currency $1 MRT Currency $1	MRT Currency $2 MRT Currency $2
MRT Currency $1 MRT Currency $1	MRT Currency $2 MRT Currency $2
MRT Currency $5 MRT Currency $5	MRT Currency $10 MRT Currency $10
MRT Currency $5 MRT Currency $5	MRT Currency $10 MRT Currency $10

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THE MONEY MAZE

INTRODUCTION

One of the most striking features of the Soviet command system was the virtual nonexistence of a commercial banking system. GOSBANK acted as both a central bank and a commercial bank. Funds for payments to resources and investment funds or loans to state enterprises were allocated, distributed, and authorized by GOSBANK based on the production plans developed by GOSPLAN. With privatization underway in the newly independent states, it is necessary for firms to find their own source of investment and operating funds. However, the absence of financial intermediaries makes it difficult for funds to flow from potential lenders to borrowers. Most countries have begun to establish private commercial banks, stock exchanges, and securities markets, but their lack of development is a major impediment to the investment needed for economic development.

Other financial intermediaries, such as pension funds and insurance companies, that act to "pool" funds for investment, were not necessary in a command economy. The state decided where investment was to occur for most enterprises. The state also insured, at some level, against poverty and health care costs.

CONCEPTS

Financial Intermediaries
Financial Capital Market
Capital
Investment

OBJECTIVES

◆ Explain how financial institutions contribute to capital formation and growth.
◆ Describe the concept of search costs.
◆ Predict difficulties faced by nations with undeveloped banking systems.

LESSON DESCRIPTION

In this lesson, students use "greenbucks" to purchase the spring for a ballpoint pen from the teacher. They are required to use the pen to complete a worksheet. In order to purchase the spring, they must find someone in the school who will lend them "greenbucks." Students then learn about the importance of financial markets and the lack of those markets in many transition economies.

TIME REQUIRED

◆ One class period (preparation required)

MATERIALS

One inexpensive ballpoint pen (spring removed) for each student

One copy Activity 1 so that there are enough greenbucks for all but four or five students

List of teachers/students who might have greenbucks, one copy for each student in half of the class

List of teachers/students who definitely have greenbucks, one copy for each student in remaining half of the class

Transparencies of Visuals 1 and 2

PROCEDURE

NOTE: Prior to beginning this lesson, provide various teachers throughout the building with greenbucks. Explain that students from the economics class will want to borrow greenbucks. Some students will be given a list of teachers who definitely have greenbucks. Other students will be given a list of teachers who might have greenbucks. Make sure that there are about four fewer greenbucks than there are students in the class.

1. Distribute a ballpoint pen (spring removed) to each student.

2. Explain that the students must use the pen to complete a worksheet the following day.

3. Ask the students if they see any problems with this plan. (They should notice that the pens do not work because they are missing a spring.)

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4. Explain that in order to make the pen work, students must purchase a spring from you. However, they may only pay for the spring with greenbucks. The price of a spring is one greenbuck.

5. Display a greenbuck and ask the students if anyone has a greenbuck? (No.)

6. Ask students to provide definitions for the following terms, based on their experiences — capital goods and investment.

7. Explain that economists define these terms differently from the average person on the street.

A. Define capital goods as manufactured and constructed things used to produce or provide access to other goods and to supply services. Examples are buildings, equipment, machinery, ports, roads, and dams.

B. Define investment as the purchase of capital goods.

C. Explain that investment occurs when savings are used to increase the economy's productive capacity by financing capital goods, such as the construction of new factories, machines or the means of communication.

8. Ask students to identify the production activity for which they will need a pen. (completing a worksheet) What capital good is required? (a working ballpoint pen) In what do they need to invest? (a spring for the pen)

9. Explain that in order to invest in a spring, students must obtain greenbucks from other teachers in the building. These greenbucks are similar to savings in a bank or a loan. Once the student has a greenbuck, he or she can purchase a spring.

10. Tell the students you are going to provide names of individuals from whom they might obtain greenbucks.

11. Explain that students must keep track of their search costs — the time spent looking for a greenbuck.

12. Distribute a copy of the list of teachers/students who definitely have a greenbuck to half of the class. Distribute a copy of the list of teachers/students who might have a greenbuck to half the class. Instruct students that they may not share information on their list with anyone else in the class.

13. When students come to class the next day, discuss:

A. How many of you were able to obtain a greenbuck? (Answers will vary.)

B. What were some of the difficulties you encountered? (took a long time, had to contact several people before finding a greenbuck, had to wait for class to end)

14. Explain students will calculate the search cost for a greenbuck — the value of the time they spent looking for a greenbuck. Instruct students to total the amount of hours or portion of hours spent and multiply by a minimum wage of $5.00.

15. Discuss:

A. Why did some people have lower search costs than others? (Some people knew exactly who had a greenbuck; others did not.)

B. How could the search costs have been lowered? (The search costs of everyone would have been lowered if everyone had the same information about people who definitely had greenbucks.)

NOTE: If all students had the information, some additional search costs may have been incurred by students with the correct information list. That teacher may have distributed all of his or her greenbucks, causing the student to search further.

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16. Display Visual 1 and explain that this diagram represents the exchange of labor and land resources between households and businesses. Households sell their labor services to businesses and receive wages. Households rent land to business and receive rental income. The transaction process is very simple and direct.

17. Remind students that acquiring the spring (capital) was more difficult. This is true in capital markets. Businesses want to buy factories and equipment that are very expensive. The businesses are not likely to have the large amount of money necessary. Ask students what businesses do when they need more money than they have. (They borrow it.) Explain that this is exactly what the students were doing when they received greenbucks.

18. Display Visual 2 and explain the following.

A. Explain that businesses usually buy labor and land directly from households, but they purchase capital from households indirectly. Households do not often sell factories directly to businesses.

B. Households save a portion of their income. Rather than put the money under a mattress, households place their savings into financial institutions, such as banks, credit unions, the stock market, the bond market, mutual funds, money market funds, and insurance and pension funds. Households pool their funds and indirectly become lenders through the financial institutions.

C. Businesses are eager to borrow money to buy capital used to produce goods and services. They go to the financial market to borrow the pooled household funds. The financial capital market is a set of institutions that serve as a go-between (broker, agent) between businesses and households. Because they are in the middle of the transaction, they are called financial intermediaries.

D. Businesses pay interest for the use of household funds. This interest is collected by the financial intermediary and a portion of it is paid to the households.

19. Explain that this saving and investing process is taken for granted by most people in the United States. It is an extremely complex and sophisticated financial system that works very well.

20. Ask students to speculate on how capital was obtained by state enterprises in the former Soviet Union. (Answers will vary. Students are likely to guess that the capital was simply given to the factories by the government.)

21. Explain that the central planners determined the desired output for state enterprises, such as an automobile factory. The Gosbank was the state bank. It had bank accounts for all enterprises from which businesses could purchase capital goods from other state enterprises. Bank accounts were debited and credited according to the plan and the level of buying and selling among these state enterprises.

22. Explain that a privatization movement has occurred to convert state enterprises to private businesses. In some cases, the former employees of the enterprise have become the owners. In other cases, citizens received vouchers (or paid some nominal amount) that could be placed in a mutual fund. The mutual fund would then make the decision on which privatized enterprises were the best places to use the vouchers. Ask students how the new owners will acquire capital goods. (Students are likely to respond that the new owners should go to the bank and borrow the money needed.)

23. Explain that the elaborate system of financial institutions that exists in market economies does not exist in the newly independent states. As a result, business owners do not know where to go to borrow money. Households did not typically save money because they didn't buy houses and expected to receive a pension during retirement years. There was no reason to save. Now many people don't trust new banks without strong laws and deposit insurance.

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24. Ask students to consider ways that the newly private enterprises may raise funds. (borrow from financial institutions in other countries; seek financial aid from foreign countries; or simply sell the business to someone else, such as a foreign investor)

25. Conclude that the lack of a financial capital market poses a significant obstacle to success for businesses in the newly independent states. The search costs for funds to borrow are extremely high. Many of the old state enterprises are obsolete in terms of plant and equipment. Many businesses have closed, and unemployment has become a serious problem.

CLOSURE

Discuss the following:

A. Describe the role of financial intermediaries in a smoothly operating market economy. (Financial intermediaries channel the savings of households to businesses so that capital can be acquired to meet production needs. Financial intermediaries reduce the search costs of businesses in seeking funds to borrow.)

B. When people save money, how are they helping the economy? (Savings are necessary to provide funds for investment in capital. As businesses build new factories or update their plant and equipment, they may remain more competitive, thereby selling their products successfully and keeping workers employed. Investment in capital goods adds to the productive capacity of an economy, making it capable of producing more goods and services.)

ASSESSMENT

1. Ask students to develop a glossary of types of financial intermediaries in the United States. Challenge students to develop the longest list possible.

2. Have students write a short essay on how the collapse of important financial intermediaries, such as banks and the stock market, affected the economy in the Great Depression of the 1930s.

3. The financial capital market plays an important role in our economy. Have students write an essay that describes the important role that a specific financial intermediary plays in the U.S. economy, what government regulations affect that institution, and why the regulations exist.

EXTENSION

1. Invite a business loan banker from a local bank to speak with your students. Ask the banker to address the loan application process, time involved, review process, and how the commercial loans contribute to capital formation and enhance the growth of the community.

2. Ask students to use the *Reader's Guide to Periodicals* to find articles about U.S. , European, or Japanese investment in the newly independent states. They should identify the business making the investment, who owns the business, and the source of funds being used for the investment. They should also describe why the foreign investors decided to invest in that country.

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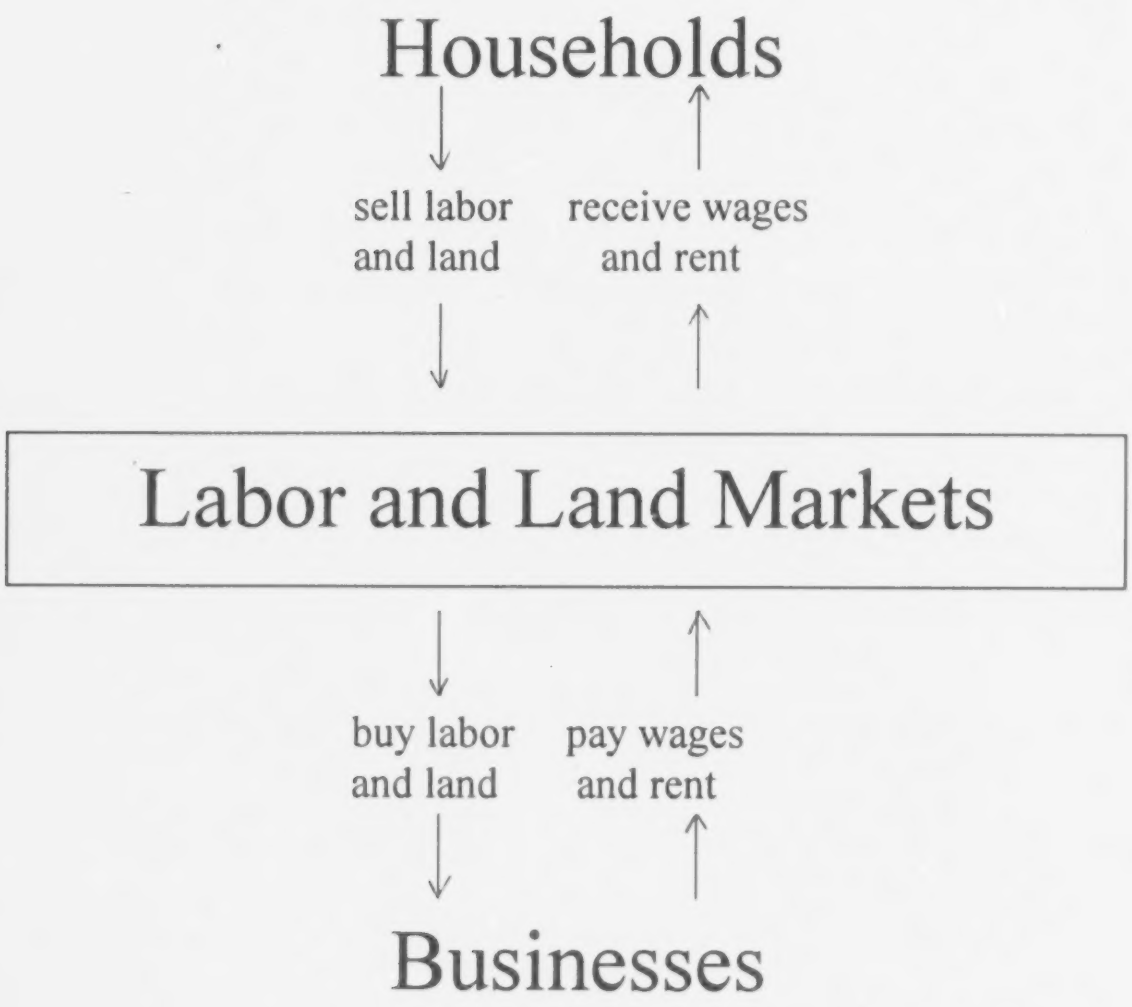
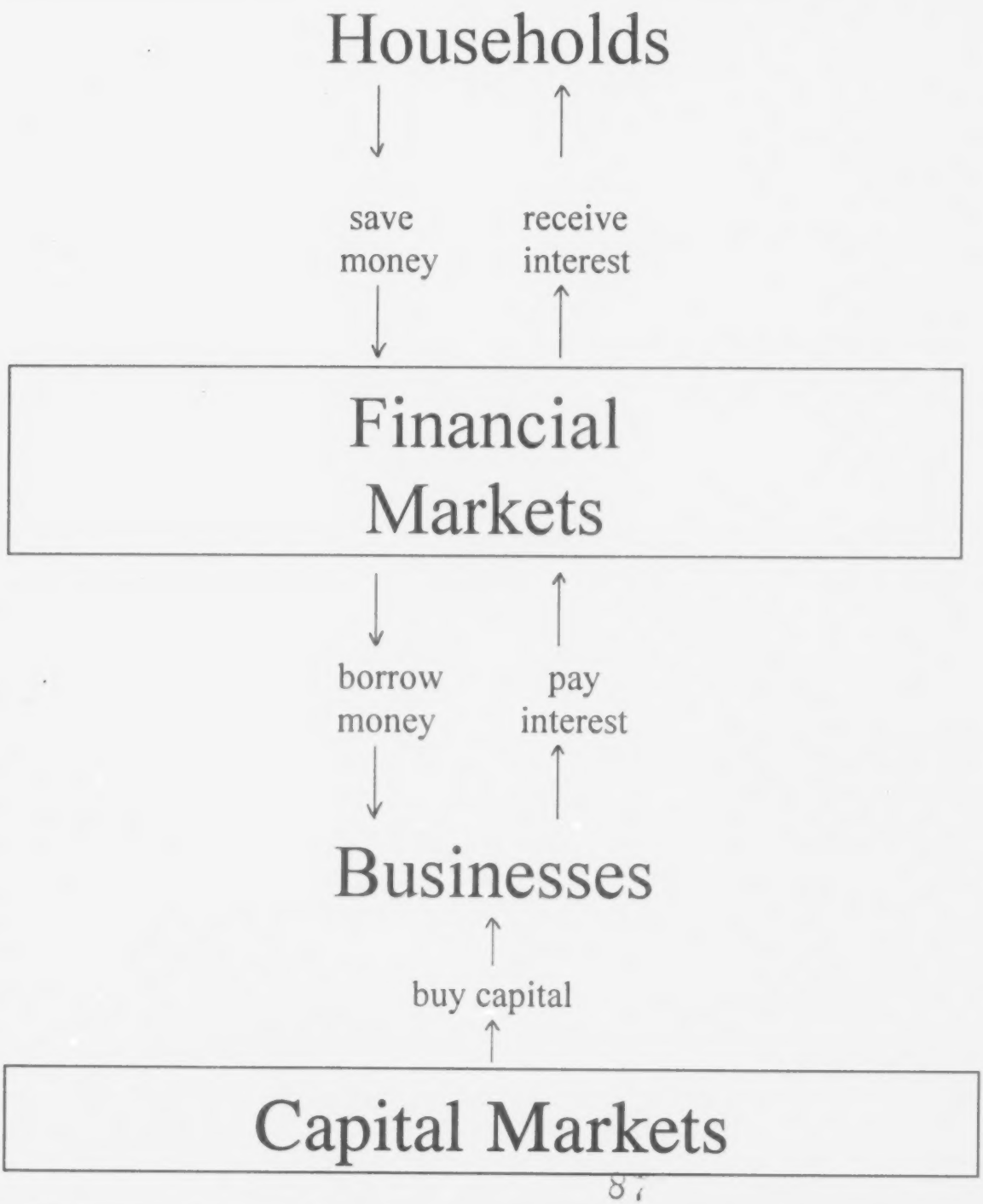
Visual 1


Households
sell labor and land
receive wages and rent
Labor and Land Markets
buy labor and land
pay wages and rent
Businesses

Visual 2



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ACTIVITY 1
GREENBUCKS

Greenbuck$	Greenbuck$
Greenbuck$	Greenbuck$
Greenbuck$	Greenbuck$
Greenbuck$	Greenbuck$

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PUBLIC TO PRIVATE

INTRODUCTION

As students of economics know, goods and services are produced by both the private sector and various levels of government. There are reasons why both systems are utilized and why there are continuing debates about their relative proportions in a society. In the United States, there is an interesting history of the ebb and flow of each sector as we continue to search for the "best" combination of the two approaches in providing the production of goods and services for the society.

One objective of this lesson is to get the United States student to confront the enormity of a sudden change from reliance on government control to reliance on the marketplace. Another goal is to confront the problems and benefits inherent in both systems.

In Ukraine, there is an attempt to move away from the centrally controlled economy of the last seventy years to one dominated by a market approach. The term "privatization" is used by economists to describe this shift of production away from the public (government) sector to the private sector.

The one common experience that most high school students have is their twelve-year immersion in the public schools. The subject of privatization of the public schools has generated a lot of interest. This would appear to be a parallel relationship for students to explore as they grapple with the issues and problems that may occur.

CONCEPTS

Privatization

OBJECTIVES

- Define privatization
- Identify problems of privatizing a state-owned enterprise

LESSON DESCRIPTION

Students analyze proposals to privatize the public school system in the United States. Students then consider the difficulties of privatization of state property in the Baltics, eastern Europe and the republics of the former Soviet Union.

TIME REQUIRED

- Two class periods

MATERIALS

One copy of Activities 1 and 2 for students
Transparency of Visual 1

PROCEDURE

NOTE: The source for procedure steps 1 through 9: The Senior Economist, September 1991, Joint Council on Economic Education. Reprinted with permission.

1. Pose this problem to students: "Our society has applauded the efforts of the nations of Eastern Europe to make the transition toward market economies. In a society that believes in free markets, why is there so little freedom of choice in our public educational system?"

2. After students have shared their thoughts, explain that they will analyze several views concerning the use of government-sponsored education vouchers.

3. Distribute a copy of Activity 1. Instruct students to read the three proposals. Answer any questions that the students might have about the three plans. Ask students to save their reasons for supporting or opposing a plan until after analyzing the statements in part two of Activity 1.

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4. Explain that the statements in Part II could be helpful to them in developing an argument for or against one or more of the proposals.

5. Divide the class into four groups. Assign each group three of the twelve statements for analysis. Review the principles of economic reasoning that are presented in Part II as necessary.

6. Explain that each group will be asked to report its analysis to the entire class and that their analysis should stress costs and benefits.

7. After the statements have been analyzed, ask each group to report its findings.

8. After reports have been given, have the students vote for the plan they would want to implement. As they vote, they should defend their choices.

9. Pose the question again. "In a society that believes in free markets, why is there little freedom of choice in our education system?" Discuss possible solutions reminding the class to consider the analyses and decisions they have completed.

10. Explain that the newly independent states of the former Soviet Union have begun efforts to privatize state-run enterprises, with mixed success. In Russia in 1994, about 40 percent of industrial workers were employed by private firms.

11. Point out that this transition is even more complex than the voucher transition would be for U.S. public schools.

12. Distribute a copy of Activity 2. Instruct students to read the article and discuss:

A. What is the main difference between a command and a market economy? (Ownership of property: in a command economy most non-human productive resources are state owned; in market economies, most of these resources are privately owned.)

B. Why were many state-owned enterprises failures as means of production? (Managers had the incentive to secure many workers. Workers were working below their capacity. The quality of products tended to be low.)

C. What objectives do proponents of private ownership hope to achieve? (Improve productive efficiency. Provide incentives for managers to respond to market signals and guide production into relatively profitable markets and out of unprofitable markets. Encourage small business development and attract foreign investment.)

D. What arguments do opponents of private ownership use? (Managers and workers at state-owned enterprises may lose income and power. Privatization will result in higher unemployment. Loss of social benefits such as housing, health and nursery care, recreation, sports, and vacation facilities.)

E. What methods of privatization have been used in the transition economies? (restitution to original owners, sale of state property, mass or voucher privatization, and creation of new firms)

F. Given current information, which appear to be the most successful methods? (mass or voucher privatization and privatization through the creation of new firms)

G. What are the difficulties with privatization through restitution? (determining the original owner when there is more than one claimant, deciding how to compensate individuals who loose their jobs or homes because they were not the original owners)

H. What are the difficulties with privatization through the sale of state property? (difficult to find investors with adequate funds, high

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inflation diminishing people's savings, and investments that are viewed as risky)

13. Show Visual 1 and compare rates. Ask students to speculate about the factors that would influence how quickly these countries were able to privatize. (whether the government chose a gradual or rapid process; the type of process or combination of processes used; whether the government was able to attract foreign investment)

CLOSURE

Have each student write a letter to a high school student in one of the former Soviet republics. In the letter, students should share their concerns and advice regarding privatization of state-owned enterprises.

ASSESSMENT

Read the students' letters to evaluate their understanding of the concept of privatization and the positive and negative aspects of privatization.

EXTENSION

1. Students could conduct additional research on the present state of the privatization process in eastern Europe, the Baltics, and the former Soviet republics. Instruct them to research what role, if any, the United States is playing in this process.

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ACTIVITY 1
VOUCHERS FOR SCHOOLS

Part 1 — Proposal:

The Green Proposal: Using voucher plans in education is a great idea. State and local governments will no longer distribute money to schools for secondary education. The amount of money currently being spent will be divided equally among all the secondary students residing within the state. The parents of each secondary student will receive a voucher equal to the amount to be spent on each student. This voucher can be used at any approved school within the state to pay for all or part of the cost of a year at that school.

The Amber Proposal: Choice in education is a good idea, but it needs careful regulation. Vouchers should be given to parents as in the Green Proposal. But, the vouchers could only be used at public schools within the state. If more students wished to attend a school than space available in the school, students in higher grades would be given priority.

The Red Proposal: Choice in education is a bad idea. The current system may need adjustments, but the system is performing quite well. We should keep the current system of government aid to public schools. If any changes are necessary, they will be made through the democratic process now in place.

Part 2 — Economic Reasoning

The following statements about choice in education have been quoted or paraphrased from periodicals. For each statement that you are assigned to analyze, do the following.

A. Explain which (if any) of the following four principles of economic reasoning is most reflected in the statement.

   1. All choices involve costs.
   2. People respond to incentives.
   3. Economic systems influence individual choices and decisions.
   4. The consequences of choices lie in the future.

B. Tell whether the statement is helpful in answering the question posed at the start of the lesson. Explain why it is or is not.

C. Explain which of the three proposals you think the statement best supports.

D. Tell what further information you would like to have concerning the statement.

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ACTIVITY 1 (Continued)

Statements:

1. Ideally, schools of all kinds would compete in the marketplace. Children of the poor and the urban middle class who currently have no alternative to attending crumbling local schools would benefit. (*Time*: September 5, 1990)

2. Voucher plans would negate the idea of the public schools as a democratic institution that melds students from all classes, backgrounds, and races. (*Time*: September 5, 1990).

3. Scholars at the Brookings Institution, a liberal think tank, released a report proposing a free-market school system. Under the plan, public and private schools would be combined into a single pool, and states would provide students with tax-funded vouchers to pay for tuition established individually by each school. Such a system is already being employed on a limited basis in Wisconsin, where a circuit court upheld its legality. (*Newsweek*: August 20, 1990)

4. Teachers' unions maintain that money will be drained from public education and that the students with the most problems will remain in public schools. (*Newsweek*: August 20, 1990)

5. Schools should be freed from standardized government controls. A voucher system that allows parents to choose their children's schools would encourage positive competition and lead to better school performance. (*Forbes*: July 23, 1990)

6. Vouchers for private schools would improve black children's educational chances and help ensure racial balance in the system. (*Newsweek*: July 31, 1989)

7. Critics contend that the plan would weaken public schools by taking away the better students. They also maintain that it violates the First Amendment, as many of the schools available to blacks are church affiliated. (*Newsweek*: July 31, 1989)

8. Vouchers that put money in the hands of education consumers would foster competition and ultimately reform the public education system. Consumers currently pay taxes whether they use the public school system or not, and students are in effect captive clients. Educators take advantage of this situation and pay less attention to consumers, and more to job prerequisites. In a voucher system, schools would have to compete for students and respond to the educational decisions of consumers. (*USA Today*: 117, September, 1988)

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ACTIVITY 1 (Continued)

9. Vouchers would weaken support for public education and a two-tier system would result in which the affluent would rely on private schools and the poor on inferior public schools (*Phi Delta Kappan*: 68, June, 1987)

10. Public schools would lose funding under the voucher plan while church-related private schools would benefit. Some voucher plans would interfere with the separation of church and state. (*Black Enterprise*: 17, September, 1986)

11. Albert Shanker of the American Federation of Teachers believes that the abolition of public education would splinter the minority population. He advises that the school policies be changed to attract and keep better teachers and to satisfy parental and student desires for choices. (*Phi Delta Kappan*: January, 1986)

12. Some experts warn against disrupting the community centered around schools and voice concern about radical transformations undertaken too quickly. (*Black Enterprise*: 17, September, 1986)

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ACTIVITY 1 (Answers)

Market forces have played a limited role in public education. In striving to provide equal education, policy makers have viewed American schools to be more like police and highway departments than like the suppliers of goods provided by the private sector.

An economic perspective, however, enables us to imagine how the market forces involving parental choice and competition may change public schooling. Voucher systems are proposed as ways to gain some of the benefits of markets for the public schools. So, for example, schools that compete for the favor of students and parents are more likely to take steps to improve achievement than schools that are impervious to such forces. There are potential costs also. Some worry, for example, that parents will lack sufficient information to select good schools.

An economic perspective also is useful to help understand why public schools are slow to adopt choice reforms. People in the current system (state departments of education, teachers' unions, colleges and universities who run teacher certification programs) have strong incentives to preserve the current system. Moreover, voucher proposals raise questions about the separation of church and state. Some people, for example, object to the notion of public dollars going to private, sectarian schools. Note, however, that questions regarding church and state are rarely voiced regarding parental choices in higher education, where market forces are allowed to operate more fully.

Suggested Answers to Activity 1

Green Statements	1, 3, 5, 6, 8
Amber Statements	11, 12
Red Statements	2, 4, 7, 9, 10

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ACTIVITY 2
PRIVATIZATION IN TRANSITION ECONOMIES

The main difference between a command economy and a market economy is the ownership of property. In the former Soviet Republics, most non-human productive resources were state owned. In market economies, most of these resources are privately owned. If the transition economies of the former Soviet republics are to move away from socialism and toward capitalism, the ownership of productive resources must move toward private property owners.

Time has revealed that state-owned enterprises were, by and large, a failure as a means of production. Managers of large state enterprises had the incentive to secure many workers in case output targets were increased. Underemployment of workers (workers working below their capacity) was common. As a result, productivity of workers was low. Additionally, managers were careful to achieve output targets, but the quality of the products tended to be low. The number produced was the important criterion, not the quality of the product.

Privatization of state-owned enterprises and other productive resources has been seen as one of the major goals to achieve with economic transition to a system with a market focus; that is, economic decisions made by individuals and businesses. The proponents of privatization argue that several important objectives will be achieved through private ownership.

1. Private ownership will improve productive efficiency (lowest cost for a given output) and productivity.

2. A market-based production system will provide incentives for managers to respond to market signals. Flexible relative prices will guide production into relatively profitable markets and out of unprofitable markets.

3. Privatization will encourage small business development and attract foreign investment.

The opponents of privatization have several arguments against a movement toward private ownership.

1. Managers and workers of state-owned enterprises may lose income and power.

2. Privatization will result in higher unemployment as the private owners layoff unneeded workers.

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ACTIVITY 2 (Continued)

3. State-owned enterprises in the former Soviet Union had provided many social benefits, such as housing, health and nursery care, and recreation, sports and vacation facilities. It is unlikely that the private owners would continue to provide these benefits to workers.

Because of the unique situations in the transition economies, several methods of privatization have been used: (1) restitution to original owners, (2) sale of state property, (3) mass or voucher privatization, and (4) creation of new firms.

(1) Privatization through restitution has been used in countries where the former owners of the property can be identified. In most eastern European countries, privatization of housing and land has occurred in this fashion because original owners were identifiable. This approach, however, is very difficult in the former Soviet Union. Collective farm members were not the original owners and did not have a legal right to the land. In Ukraine, only 3 percent of farmland was privately held in mid-1995. Transition governments must deal with the issue of how people, who would be uprooted because they worked the land, lived in housing, or operated small businesses, would be compensated for their loss.

(2) Privatization through the sale of state property presents many challenges. Most industrial plants and much housing in the former Soviet Union was created by the communist government. Because no former owners exist, many transition governments have chosen to sell the property. They hoped to generate revenue for the state, begin serious industrial restructuring, and attract foreign investors. The sale of small service businesses, such as restaurants and shops, has been the most successful. The sale of large enterprises has been very difficult, except in the case of East Germany which merged with West Germany. In Hungary, approximately one-half of sales were to foreign investors. Most of the other transition economies, however, have failed to have such success. It is difficult for the states to find investors with adequate funds in their respective countries; high inflation has diminished the value of people's savings; and many people view investment in these state enterprises as risky.

(3) Mass or voucher privatization has occurred when states provide vouchers to citizens free or at a very low cost. These vouchers can be used to purchase shares of state enterprises, directly or indirectly through a specialized investment fund. Combined with other privatization programs, the voucher program worked well in the Czech Republic with 65 to 90 percent of all assets privately held by 1994. Poland has had similar success with a voucher system. In the cases of Poland and the Czech Republic, outsiders became in control of the enterprises. In Russian mass privatization, a different distribution process resulted in private enterprises that are generally controlled by insiders and local government authorities.

(4) Privatization through the creation of new firms in a growing private sector is the final approach that has been used in transition economies. Although data are difficult to obtain for

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many reasons, small businesses appear to be the most dynamic aspect of many of the transition economies.

To achieve successful privatization, the transition economies have had to employ a variety of the above techniques, depending on the existing circumstances of the specific country. Privatization of property can occur very quickly; however, the long-run impact of the privatization processes remains to be seen.

Source: Brada, J.C. "Privatization Is Transition — Or is It?," Journal of Economic Perspectives, Vol. 10, No.2, Spring 1996, pp. 67-86.

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VISUAL 1

Share of Private Sector in GDO in the Former USSR, 1994

Country	*Percentage*
Armenia	40
Azerbaijan	20
Belarus	15
Estonia	55
Georgia	20
Kazakhstan	20
Kyrgyzstan	30
Latvia	55
Lithuania	50
Moldova	20
Russia	50
Tajikistan	15
Turkmenistan	15
Urkaine	30
Uzbckistan	20

Source: European Bank for Reconstruction and Development (1995).

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WORKER WOES: Labor Transition Challenges

INTRODUCTION

In the command economy of the former Soviet Union, central planners attempted to do manpower balancing on a regional basis. Labor staffing (determining the amount and type of workers) was a decision made by planning authorities in the various ministries in accordance with the production plans they also developed. Enterprise managers did have some input into these decisions and did have some flexibility with respect to moving workers into different classifications. They often overstated their needs for labor to ensure that they could meet their output targets.

Once the "demands" for labor were aggregated, it was the central planner's responsibility to see that there were sufficient supplies. Although there are examples of workers being administratively assigned to particular jobs (especially in times of national emergencies, such as wars), generally the plans were met through the use of differentiated wages to attract workers to those occupations, enterprises, and regions where they were needed. There were also attempts to "manipulate" future labor supplies through training and selective education. For example, the Ministry of Education planned the number of students entering particular fields. The Ministry also planned the type of educational facilities to be provided (again, based on the overall plan and its anticipated requirements). Most graduates from secondary schools, vocational schools, and institutions of higher learning were initially placed by local and regional authorities.

Under the command system, nearly nine of every ten people worked for a state-controlled enterprise, and employment was essentially guaranteed to all those who wished it. However, indications are that many people were underemployed (due to managers' incentives to overstate needs) and productivity was low (due to a lack of meaningful incentives and outdated capital).

After the break-up of the former Soviet Union, real wages fell for many reasons, such as output fell due to supply shocks related to the break-up, a loss of a huge free-trade zone among the former Soviet republics, supplier distributions, and so on. In some former republics, there were periodic energy crises and fears about war. As prices were liberalized by the elmination of price controls, prices rose for many products. Workers whose wages did not rise correspondingly suffered the effect of a loss in real wages. While many states responded and increased wages, monetary restraints required governments to try to limit the wage increases. Falling real incomes meant that people bought lower quantities of goods and services which led to negative growth in many of the transition enconomies. Shutdowns of state enterprises and failure of newly privatized enterprises have forced many workers into the "shadow" economy.

CONCEPTS

Frictional Unemployment
Structural Unemployment
Cyclical Unemployment
Incentive

OBJECTIVES

◆ Define and give examples of frictional, structural, and cyclical unemployment.

◆Define incentive.

◆Predict how workers will respond to incentives.

LESSON DESCRIPTION

Students examine unemployment rates in the United States and the former Soviet Union. Students learn how employment was managed in the former Soviet Union. They also learn about the sources of unemployment in the U.S. The difficulties of transition in labor markets in newly independent states are presented. The role of economic incentives is explained.

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LESSON NINE

TIME REQUIRED

- One class period

MATERIALS

Transparencies of Visuals 1 and 2

PROCEDURE

1. Display Visual 1. Explain that the graph illustrates unemployment statistics for the United States and the former Soviet Union from 1946 through 1990.

2. Ask students what difference they notice between the unemployment statistics for the two countries? (over time, unemployment rates in the United States fluctuate; over time, unemployment rates in the former Soviet Union were relatively constant) Why? (The United States is primarily a market economy. The Soviet Union was primarily a command economy. In a market economy, employment levels fluctuate based on the level of economic activity.)

3. Ask students to give specific examples of unemployment in the U.S. Write these on the board. (middle-managers unemployed as a result of corporate downsizing, construction workers unemployed during winter, steel workers unemployed because steel plants closed, fewer roofers are employed during a recession when fewer houses are built)

4. Point out that economists place each of these examples under three broad categories of unemployment: frictional, structural, and cyclical unemployment. Discuss:

A. Explain that because workers in the United States have the freedom to choose occupations and jobs, at any time there are some workers who are "between jobs." Economists refer to these people as frictionally unemployed. They may be young workers searching for their first jobs, people voluntarily changing jobs, people temporarily laid off because they perform seasonal work, or people who have been fired. Ask students which of their unemployment examples could be classified as frictional unemployment.

B. Define structural unemployment as unemployment caused by technological changes and changing demand for goods and services. As a result of these changes, some workers may lose their jobs because their skills have become obsolete. Ask students which of their unemployment examples could be classified as structural unemployment.

C. Explain that cyclical unemployment tends to occur when there is a drop in total spending in the economy. As the demand for goods and services falls, unemployment rises. Ask students which of their unemployment examples could be classified as cyclical unemployment.

5. Refer to Visual 1 and remind student that U.S. unemployment rates have fluctuated over the years. Workers are temporarily between jobs for a variety of reasons; demand for consumer goods and technology change; and total spending in the economy may slow down. Ask students why these events apparently did not affect unemployment in the former Soviet Union. (Answers will vary.)

6. Tell students that the centrally-planned economy of the former Soviet Union controlled the production of goods and services. Labor, however, was essentially unmanaged. Workers were free to seek the jobs and places of work that they preferred. Central planners, however, would adjust wages, when necessary to attract workers into less attractive jobs or places of work. Educational planners and economic planners did work together to make sure that the economy had workers with the skills needed to meet the production plans.

7. Explain that in the former Soviet Union output was carefully planned by the central authorities and the economy had virtually no unemployment. At first glance, this appears to be a very attractive economic system. Yet, the economic

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system was collapsing in the 1980s, which led to the political and economic break-up of the former Soviet Union. There are many complex reasons for this break-up; however, this class will focus on the labor market aspects. Discuss the following.

A. Every year central planners specified particular output targets. As a result, the state enterprise managers faced production targets that they were expected to meet. These quotas tended to increase annually. State managers had to ensure they had enough workers to meet the production quotas. How would this affect the unemployment rate? (State managers would want to employ many people to make sure they had enough workers to meet the quota. This would encourage employment and keep unemployment low.)

B. State enterprise managers could not fire workers even if labor-saving devices were introduced? How would this affect the unemployment rate? (keep it low)

C. Because a profit motive did not guide the actions of state enterprise managers, cost control was relatively unimportant. How would this affect the unemployment rate? (keep it low)

D. The population growth rate was steadily dimishing. How would this affect the unemployment rate? (keep it low)

8. In 1991, the Soviet Union collapsed and the republics declared their independence. Since that time, the economies of the newly formed independent countries have been undergoing transition to market economies.

9. Explain that the problems of transition have created situations that provide incentives to which workers have responded.

10. Define incentives as rewards or penalties that affect people's behavior. Explain that A, B, C, D, and F grades are incentives to which students respond. Discuss.

A. If the grading system were changed to pass/fail, would your behavior change? (Answers will vary.) Why? (The incentives have changed. As a result, students would probably spend less time studying. They might skip more classes and do less homework.)

B. What are some other incentives that influence your behavior? (possibility of traffic ticket, possibility of scholarship for good grades, raise for a doing a good job at work)

11. Explain that students will be given various scenarios and asked to identify the incentives at work and predict how workers in the former Soviet republics would respond in each situation.

12. Display Visual 2 but disclose only scenario #1. Instruct students to read the scenario and discuss the following.

A. Why does the cookware factory have a surplus? (All cookware was produced in Chelyabinsk. When the republics of the former Soviet Union became independent, they created international borders. In order for other newly independent states to purchase cookware, they would need the correct foreign exchange, which they didn't have. Sales of cookware dropped accordingly. The state continued to hire workers and produce cookware.)

B. Although Andrei had a regular job, he chose to be absent about 40 percent of the time to do other work. What were his incentives to change his behavior? (Because he didn't receive adequate income, he had an incentive to work elsewhere. Instead of pots and pans, he could earn income with which he could buy goods and services. Additionally, his earnings in the shadow economy were not taxed.)

13. Continue with scenario #2 and discuss the following.

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A. Why has Natasha's real income fallen? (Prices have risen significantly more than Natasha's salary. As a result, her income will not buy as many goods and services as previously.)

B. Why do U.S. dollars provide an incentive to Natasha? (U.S. dollars hold their value better than Ukrainian currency. In this way, she is better able to purchase goods and services.)

C. What is Natasha's incentive to work in an illegal labor market? (Because Natasha is paid outside of the regular economy, she does not report her income and avoids paying taxes. As a result, she is better able to purchase goods and services. Her official job may end if the state does not have enough money to pay her on schedule.)

CLOSURE

1. Ask students to compare and contrast unemployment in the United States and the former Soviet Union.

2. Have students describe incentives in the labor market that will affect their decisions about future careers.

ASSESSMENT

1. Have students find examples of frictional and structural unemployment in the newspaper. They should support their classifications.

2. Have students review school rules and regulations that provide incentives for students to behave in certain ways. They should explain whether the incentives provide rewards or penalties. Ask them to develop alternative incentives if they believe that the rules create inappropriate behaviors.

EXTENSION

1. Ask students to research a proposed government policy, such as an increase in the minimum wage or a change in Medicare. They should write a short essay about the incentives that the policy establishes and the behaviors that are likely to follow.

2. Divide the class into "pro" and "con" groups that will debate the following proposal. Proposed: "Every American has a right to a job and should be guaranteed a job."

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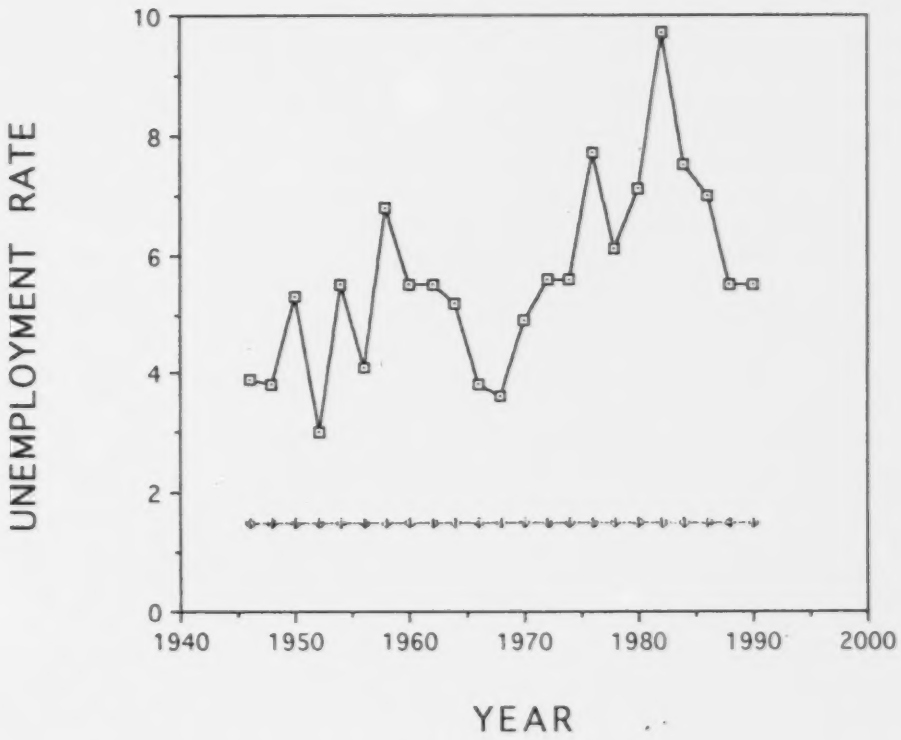
VISUAL 1
UNEMPLOYMENT PATTERNS

Rates for the United States and the Former Soviet Union from 1946 to 1991



VISUAL 2
INTERESTING INCENTIVES

Scenario 1

Andrei Ravichev is a worker at a state-operated factory in Chelyabinsk, Russia. This plant manufactured 100 percent of cooking equipment for the former Soviet Union. After Russia became an independent nation, the plant managers lost their customers located in other former Soviet republics as those republics became independent. As a result, the factory has produced a lot of surplus cookware. Because little cookware has been sold, production has been cut and little income has been earned. It has become difficult for the plant managers to pay the workers. Sometimes Andrei is paid his salary and sometimes he's paid in pots and pans.

Andrei doesn't go to work much anymore. He works maybe fifteen hours a week. He spends the rest of his time in the "shadow" economy reselling food and other goods at markets on the streets, doing some odd jobs for other people, and working at a small, private enterprise that doesn't register its business with the government. Enterprises and workers in the shadow economy do not register their activities with the government, and, therefore, are not taxed.

Scenario 2

Natasha Gonchruk has taught at a secondary school in Ukraine for the past 25 years. After Ukraine declared its independence in 1991, life began to change dramatically. Without the support of the Soviet financial structure, the new government now had to pay state employees. However, national output was starting to fall and so were tax revenues. Each month it became more difficult for the government to meet its financial obligations, so it began to issue money credits which created inflation.

This year, Natasha received a 25 percent increase in her salary; however, inflation has increased at a rate of 800 percent. Natasha can no longer afford to buy the same number of goods and services, even though her salary has increased. Her real income has decreased. Some private schools that teach a lot of economics and business have been started. Natasha can work in these schools in the afternoon. She is paid in cash in dollars. This activity is not registered with the government, so Natasha does not report her income.

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MARKET OR COMMAND: Which Is Best for the Environment?

INTRODUCTION

The profit motive of market economies is often cited as the source of environmental pollution. Yet the opening of former Soviet republics has revealed environmental conditions that in many respects are worse than those seen in market economies. As these nations move toward market economies, the question often asked is, "Will environmental conditions improve or simply get worse?" This lesson focuses on the real source of environmental problems in both systems — ignoring opportunity costs.

CONCEPTS

Opportunity Cost

OBJECTIVES

- Define and identify opportunity costs
- Describe the importance of costs in making decisions
- Explain how ignoring some costs leads to environmental problems in both command and market systems

LESSON DESCRIPTION

Members of the class play the roles of entrepreneurs in a market economy and managers in a command economy. They make decisions about how to make their product, widgets, given information on cost and availability of the resources used to produce widgets. The effect of ignoring resource costs in both systems is discussed.

TIME REQUIRED

- One class period

MATERIALS

Transparencies of Visuals 1, 2, and 3

Copies of Activity 1 to provide role cards for each student

PROCEDURE

Teacher preparation: Familiarize yourself with the table in Visual 1 and the various scenarios described on the role cards in Activity 1. You should be comfortable with how the various results described in Visuals 2 and 3 were obtained.

1. Point out that people make choices all of the time. Their choices are made by weighing the benefits and costs of alternatives and selecting the alternative that has the greatest benefits relative to the costs.

2. Explain that it is important to consider the opportunity cost. Opportunity cost is the highest valued forgone alternative when a choice is made.

3. Relate the following scenario to the class: An advertisement for a new home exercise machine that sells for $395 poses the question, "Isn't $395 a small price to pay for a stronger and healthier body?" Discuss the following.

   A. Does $395 really represent the total cost in this situation? (No.)

   B. What must be given up in order to have "a stronger and healthier body" assuming that the machine actually works? (The monetary cost is important because the individual gives up other goods that could have been purchased with the $395. Other important costs include giving up the space to store and use the machine and the time spent on other enjoyable activities given up to use the machine.)

   C. If people do not consider all of the costs associated with the exercise machine when they make the choice to buy it, what might happen? (More machines might be sold than would be if buyers considered all costs.

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Note that many exercise machines sit idle when the time costs associated with their use become apparent to the buyer. Thus, many people make purchases that they later discover they shouldn't have, given all the costs involved. They are out $395 and never get that promised body!)

4. Point out that in the United States today many people are concerned about the costs our economic activity imposes on the environment. Some people argue that pollution is the result of the profit motive. They think that a system based on profit seeking ignores environmental costs and, as with the exercise machines, results in poor decisions being made.

5. Explain that the class will investigate this proposition for both market economies and centrally planned nor command economies, such as that of the former Soviet Union.

6. Display Visual 1 and explain that widgets are a good that yields great satisfaction to society. As with all goods, resources must be used to produce widgets. However, there is more than one way to produce widgets because different technologies may be used and it is possible to substitute one resource for another. This table illustrates four different ways to produce widgets and the amount of resources required to produce one widget in each case.

7. Explain that students will be given some additional information and will be asked to select the "best" production method in two different situations.

8. Divide the class into four groups: Blue, Red, Yellow, and Green.

9. Give each student in each group a copy of the role card for that group. Instruct each group to select a reporter.

10. Allow ten minutes for the groups to discuss and decide which techniques they would choose.

11. Ask the reporter for the Blue group to read the group's role card and report its decision.

12. Ask the reporter for the Red group to report its decisions. Discuss any differences with respect to the Blue group. (There should be none. Both were given the same problem.) Display Visual 2 and explain the solutions found.

13. Ask the reporter for the Yellow group to read the group's role card and report its decisions.

14. Ask the reporter for the Green group to report its decisions. Discuss any differences with respect to the Yellow group. (There should be none. They were both given the same problem.) Display Visual 3 and explain the solutions found.

15. Discuss the following.

A. What is the cost of using Resource D for all groups? (Zero. All are able to use unlimited amounts of Resource D for free.)

B. When unlimited amounts of Resource D were not available for free, how did the groups respond? (They chose other options that required less of the relatively more expensive or less abundant Resource D.

16. Explain that in a market system, resource use and goods production are directed by the incentive to earn profit. In a command economy, resource use and goods production are determined by central planners who distribute resources and set output targets.

17. Point out that in this activity the Blue and Red groups represented entrepreneurs in a market system, while the Yellow and Green groups represented managers in a command system. Note to the students that both sets of groups reacted in a similar way to an increase in the cost of a resource — they both chose an alternative option to conserve (economize) on its use.

18. Ask students to imagine that Resource D represents air and waterways used to dump

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production waste (air and water pollutants). Discuss the following.

A. In what sense have these resources been treated as "free" to use for the disposal of wastes in the past? (No one owned them or managed their use. Everyone was free to use them as they wanted and as much as they wanted.)

B. Is there, in fact, a cost associated with using these resources as disposal sites; that is, is something given up? (Yes, people must give some environmental quality, such as loss of visibility, loss of wildlife habitats, loss of aesthetic beauty, and loss of good health.)

C. Why might a market system fail to take this cost into account? (It is difficult to define private ownership of these resources. Thus, there are no "suppliers" of the services of these resources to consider the consequences of how they are used. For example, suppose that a lake is owned by Mindy. If Clark is willing and able to pay $1000 to Mindy to have her keep the lake "clean" for aesthetic and fishing reasons, then the cost to Mindy of selling the lake as a dump site for wastes would be $1000. That would be the value of her foregone opportunity. She would not take less than $1000 (her cost) to use the lake as a dump site. In other words, she considers the cost consequences of her decisions and this cost is reflected in the price she would charge for using the lake as a dump site. Without an owner, this doesn't happen.)

D. Why might a command system fail to take this cost into account? (Environmental quality may not be seen as a valued good by central planners, so the unlimited use of air and waterways is seen as costless — nothing of value is given up.)

E. What does this suggest needs to be done in both systems? (The relative scarcity or cost of using air and waterways must be accounted for in both systems. This means putting a price on using them in a market system, such as emission charges/taxes or creating a market for permits to emit. For a command system, it requires that central planners view environmental quality as a valued good which may be foregone if no resources are devoted to its "production." Thus, they may need to place restrictions on the amount of allowable emissions to reduce their use of air and waterways as dump sites.)

CLOSURE

1. Remind students that environmental problems in both market and command systems occur because the real cost of resource use is ignored.

2. Discuss the following.

A. In a command economy, central planners essentially take stock of the available resources in the economy and then allocate them to those goods and services that they deem most important. Given the relatively low standard of living in the former Soviet republics, why might the Soviet planners have allocated so few resources to preserving (producing) environmental quality? (They likely measured the success of their efforts in terms of the production of traditional economic goods, such as food, clothing, shelter, and capital — not in terms of less traditional measures, such as air and water quality and habitat preservation. Note that by ignoring these environmental goods, they ignored part of the cost of producing the traditional goods — the lost environmental quality.)

B. Why might new leaders in the former Soviet republics be reluctant to implement policies that take these costs into account? (They may be eager to achieve economic success as measured by the production of traditional goods. By ignoring these costs, more

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traditional goods can be produced at the expense of environmental quality.)

C. Why might the leaders in market economies be slow to implement policies that take these costs into account? (Because it will increase the cost of producing most goods and services and, thus, increase prices for consumers. It is important to note, however, that these higher prices would lead to lower quantities of goods demanded and higher levels of environmental quality as resources would be diverted away from the production of traditional goods, leading to less resource use and less waste generation.)

ASSESSMENT

1. During the last twenty years, the U.S. government legislated the use of catalytic converters and unleaded gasoline. Ask students to write an essay explaining why this legislation was enacted, what the impact was on the cost of driving and the cost of using air.

2. Have students take a particular resource-use issue, such as spotted owl habitat versus logging, wilderness preservation versus mining, or scenic canyon preservation versus building a hydroelectric facility. Have them describe the opportunity cost of each development option and the opportunity cost of each environmental option. Have them discuss which of these costs would be easier to quantify and explain why.

3. Instruct students to investigate environmental problems in South American countries and explain why environmental costs may be ignored by the citizens of these countries when producing traditional goods and services (housing, food, clothing).

4. Have students investigate how the central planners of the former Soviet Union measured their success; that is, what were their goals/objectives?

EXTENSION

1. See Lessons 1-20 in *Economics and the Environment*, National Council on Economic Education. 1996.

2. Instruct students to produce an "Environmental Report Card" for their state and one of the newly emerging independent states of the former Soviet Union. They should collect information/data on water quality, air quality, habitat preservation, hazardous waste sites, and ground water contamination.

3. Ask students to suggest methods of reflecting environmental costs in the decisions made by producers (and consumers). In particular ask them to investigate the emission charges/taxes used in some European nations, the SO_2 emissions permit market created by the Clean Air Act of 1990 in the United States, or garbage collection systems that charge by the weight of a consumer's garbage, or recycling programs that offer rewards to consumers who return bottles, cans, and other wastes.

4. See "Soviet Pollution," *National Geographic*, Vol. 186, No. 2, August 1994, pp. 70-99.

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VISUAL 1
WIDGET PRODUCTION

Resources Required to Produce One Widget	Alternative Production Options			
	(1)	(2)	(3)	(4)
Units of Resource A	1	2	4	5
Units of Resource B	5	3	2	1
Units of Resource C	4	4	3	3
Units of Resource D	5	4	2	1

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VISUAL 2
WIDGET PRODUCTION ANSWERS

When the price of Resource D is $0 per unit, the Blue and Red groups should choose Option 2 because it results in the lowest cost per widget and the most profit.

Option 2:	2 units of Resource A @ $50	=	$200
	3 units of Resource B @ $40	=	$120
	4 units of Resource C @ $20	=	$ 80
	4 units of Resource D @ $0	=	$ 0
	TOTAL		$300

Options 1, 3, and 4 cost $330, $340, and $350 respectively.

When the price of Resource D is $50 per unit the Blue and Red groups should choose Option 4 because now it results in the lowest cost per widget.

Option 4:	5 units of Resource A @ $50	=	$250
	1 units of Resource B @ $40	=	$ 40
	3 units of Resource C @ $20	=	$ 60
	1 units of Resource D @ $50	=	$ 50
	TOTAL		$400

Options 1, 2, and 3 cost $580, $500, and $440 respectively.

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VISUAL 3
WIDGET PRODUCTION ANSWERS

When the use of Resource D is unlimited, the Yellow and Green groups should choose Option 1 as it allows them to produce the most output from the resources available to them.

Option 1:	Resource A	$\frac{60}{1}$ units	=	60 widgets possible
	Resource B	$\frac{200}{5}$ units	=	40 widgets possible
	Resource C	$\frac{160}{4}$ units	=	40 widgets possible
	Resource D	unlimited	=	unlimited widgets

The most widgets possible using options 2, 3, and 4 are 30, 15, and 12 units respectively. Note that while Resources B and C constrain output to 40 for Option 1, it is the amount of Resource A that constrains output for the other options.

When the amount of Resource D available is limited to 40 units, the Yellow and Green groups should choose Option 3 because not it allows for the most output.

Option 3:	Resource A	$\frac{60}{4}$ units	=	15 widgets possible
	Resource B	$\frac{200}{2}$ units	=	100 widgets possible
	Resource C	$\frac{160}{3}$ units	=	50 widgets possible
	Resource D	$\frac{40}{2}$ units	=	20 widgets possible

The most widgets possible with options 1, 2, and 4 are 8, 10, and 12 units respectively. Note that Resource A still constrains output for Options 3 and 4, but now Resource D constrains output for Options 1 and 2.

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ACTIVITY 1
ROLE CARDS

BLUE GROUP

You and the other members of your group are owners of a widget factory. There are four different ways you can use to produce widgets. Assuming that your goal is to maximize your profits, select the best technique to use given the following resource prices:

Resource A	$50 per unit
Resource B	$40 per unit
Resource C	$20 per unit
Resource D	$ 0 per unit

Suppose next that the price of Resource D rises to $50 per unit. Which technique would you choose now?

RED GROUP

You and the other members of your group are owners of a widget factory. There are four different ways you can use to produce widgets. Assuming that your goal is to maximize your profits, select the best technique to use given the following resource prices:

Resource A	$50 per unit
Resource B	$40 per unit
Resource C	$20 per unit
Resource D	$ 0 per unit

Suppose next that the price of Resource D rises to $50 per unit. Which technique would you choose now?

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ACTIVITY 1
ROLE CARDS (continued)

YELLOW GROUP

You and the other members of your group are the managers of a widget factory. There are four different ways you can use to produce widgets. Assuming your goal is to maximize the amount of widgets you produce, select the best technique to use given that you have the following stocks of resources available to you:

Resource A	60 units
Resource B	200 units
Resource C	160 units
Resource D	Unlimited amounts

(Note that your production will be constrained by the least available resource.)

Suppose next that the amount of Resource D available for you to use is reduced to 40 units. Which technique would you choose now?

GREEN GROUP

You and the other members of your group are the managers of a widget factory. There are four different ways you can use to produce widgets. Assuming your goal is to maximize the amount of widgets you produce, select the best technique to use given that you have the following stocks of resources available to you:

Resource A	60 units
Resource B	200 units
Resource C	160 units
Resource D	Unlimited amounts

(Note that your production will be constrained by the least available resource.)

Suppose next that the amount of Resource D available for you to use is reduced to 40 units. Which technique would you choose now?

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